Report to
the Arkansas General Assembly
and Governor

Tobacco Settlement Proceeds Act of 2000
Program Performance and ATSC Recommendations

Submitted by the
Arkansas Tobacco
Settlement Commission

October 1, 2004

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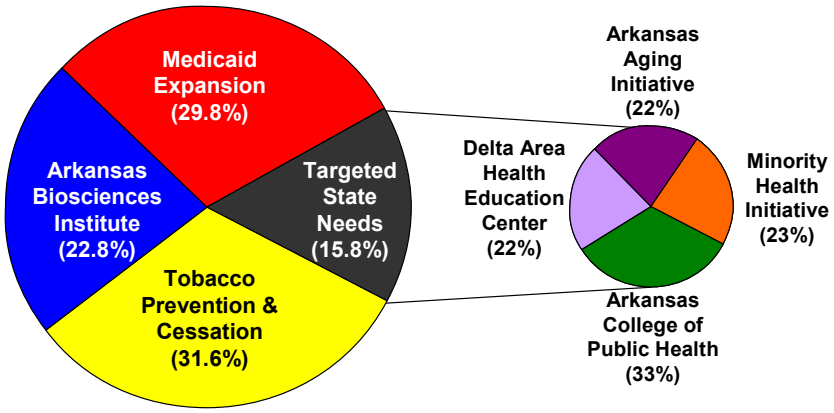
Executive Summary

The Arkansas Tobacco Settlement Commission (ATSC) presents its recommendations regarding continued funding of seven programs funded by the Tobacco Proceeds Act of 2000 ("the Act") in this report. These recommendations provide essential information to the Governor and the Arkansas General Assembly for consideration in future funding decisions. The Tobacco Proceeds Act of 2000 (the "Act"), which was passed by 64% of Arkansas voters in the November 2000 election, established the ATSC and governs distribution of funding from Arkansas' share of the national Master Settlement Agreement (MSA) between state Attorney Generals and tobacco companies. This documented report is part of ATSC's responsibility for oversight and assessment of the performance of the seven Act-funded programs (see graphs below).

At its July 2004 meeting, the Commission voted to accept key findings based on program performance indicators established by an evaluation team from the RAND Corporation. However, the Commission only accepted RAND's key findings, while expressing concerns about recommendations advanced in RAND's original draft report. This subsequent report directly addresses ATSC recommendations about funding appropriations. It also provides summaries of recommendations for specific activities within the seven programs and about common themes and issues that apply across the programs. As such, the current report fulfills the Commission's requirement, as specified in the Act, to submit a biennial report along with program funding recommendations.

In its July 2004 report, RAND cited that the Arkansas Department of Health (ADH) Tobacco Prevention Education Program was operating below the minimum recommended funding levels recommended by the Centers for Disease Control and Prevention (CDC). RAND noted this reduction as a potential threat to the state's program and recommended shifting funding to this program from another Act-funded program, thereby prioritizing one program over another without regard for the other program's success. However, the Act clearly established percentage allocations for all programs, and it only allows for redirection of funding in the case of failed program performance. In addition, when RAND issued its draft report, RAND did not recognize that Arkansas had identified external funding streams to maintain CDC minimum recommendations.



Therefore, when the Commission met September 8, 2004, to discuss a revised RAND report, it adopted RAND's recommendations with the exception of one—to increase the ADH program's funding to its original level—and also rejected the suggestion that this be done by shifting funding from one program to another. On September 22, the Commission met to vote on

programmatic recommendations that RAND advanced along with findings upon which the Commission had previously voted. The Commission accepted all programmatic recommendations except those that require legislative action or make reference to changes in funding levels because these matters are beyond program authority. Therefore, the Commission has affirmed all recommendations in Chapter 12 of the RAND report (which starts on page 9 of this report) except for those listed above.

Overall, program progress is positive, and Arkansas's decision to spend its entire share of the MSA on healthcare (one of only four states out of 48 to do so) has been a good one for the health of Arkansans. All programs have made significant progress in expanding infrastructure to support the health status and needs of the population.

ATSC Recommendations and RAND Findings

ATSC RECOMMENDATIONS FOR ACT-FUNDED PROGRAMS

The Arkansas Tobacco Settlement Commission, at its July 2004 meeting, made recommendations for Act-funded programs, based upon the review of available data, reported activities, and impact assessments from RAND's draft report. Through ATSC deliberations, the following three recommendations were considered for each program.

A. Continue funding without reservations

B. Continue funding with concerns (and list concerns)

C. Discontinue funding (or reallocate funds) due to non-performance

The recommendations listed in the table below are based on ATSC adoption of RAND findings based on program performance, which is reported in the next section. T

ATSC Recommendations for Act-Funded Programs

Program	Findings and/or Concerns	Rec. (A, B, or C)*
Tobacco Prevention & Cessation Program (ADH)	*Finding* • Successfully completed requirements set out in the Act. All funded coalitions are fully operational and progressing on schedule. *Concern* • Reduction in funding for direct tobacco control initiatives can weaken impact on smoking rates.	**A**
College of Public Health (UAMS)	*Finding* • Successfully completed goals for educational programs and met all requirements of the Act.	**A**
Delta Area Health Education Center (AR AHEC Program)	*Finding* ▪ Successfully completed all short-term goals established in the Act.	**A**
Arkansas Aging Initiative (Donald W. Reynolds Center on Aging)	*Finding* • Successfully completed all short-term goals established in the Act. All seven Centers on Aging have been established along with Senior Health Clinics in most regions.	**A**
Minority Health Initiative (Minority Health Commission)	*Finding* ▪ Successfully met goal to increase awareness of minority health issues. *Concern* • Not completed prioritized list of minority needs assessment as specified in the Act; recently released strategic plan does not clearly state AMHC's role in addressing the issues • Not yet established databases that meet goals in the Act.	**B**
Arkansas Biosciences Institute	*Finding* • Substantial progress made in establishing programs that address the five areas of research specified in the Act.	**A**

Program	Findings and/or Concerns	Rec. (A, B, or C)*
Medicaid Expansion (Department of Human Services)	*Finding* • Made steady growth by building on existing staff and information systems, enabling timely implementation of three of the four expansion programs. *Concern* • Federal funding of program for adults 19-64 not approved by CMS • Low enrollment of programs and services because of lack of outreach and education about available programs	**B**

RAND PROGRAMMATIC FINDINGS AND RECOMMENDATIONS

At its July 2004 meeting, ATSC adopted the program findings that are summarized below. These findings were provided by RAND, the Commission's third-party external evaluator[1]. At its September 22 meeting, the Commission affirmed all RAND findings and agreed with all recommendations except those that require legislative action and that make reference to increased funding.

Key Programmatic Findings and Recommendations of the External Program Evaluator

Tobacco Prevention & Cessation Program (Arkansas Department of Health)

Findings	*Recommendations*
• The community coalitions have begun to bring about changes in their communities, but more time will be needed for them to have significant impact on tobacco use. • Most of the education cooperatives, with assistance from the public health nurses, have begun to put in place activities consistent with the CDC guidelines for schools. • The Arkansas Tobacco Control Board is successfully conducting enforcement activities all across the state, and obtaining a low violation rate, but it is not performing much merchant education on tobacco use issues. • Both statewide coalitions (Coalition for Tobacco Free Arkansas and the Arkansans for Drug Free Youth) have been extremely active; their activities are clearly called for by the CDC guidelines and are in accordance with the Initiated Act. • The primary cessation programs—Mayo Quitline and the AFMC program—have been performing very well, achieving quit rates either at or above what is normally expected for such programs. • The media campaign achieved a high degree of recall of their advertisements, although there have not been changes in attitudes toward tobacco use. The campaign also has been successful in leveraging free media, further extending the reach of the campaign. • Minority Initiative Sub-Recipient Grant Office and its community grant program has distributed funds to almost all minority communities; it is too early to assess impact of this grant program. • ADH has emphasized evaluation in all of its grants and contracts, however the implementation of evaluations at the local level has varied widely. • After a slower start, the ADH has been on track with spending their tobacco settlement funds, including this most recent six month period (July-Dec 2003); however, not all tobacco settlement funds have been spent exclusively on tobacco issues.	• Funding levels for the nine components of a comprehensive statewide tobacco control strategy should be raised to minimums recommended by the CDC for AR. • Funded programs that are not within the scope of tobacco prevention and cessation programming, as defined by the CDC guidelines, should be re-evaluated for their value in contributing to reduction of smoking and tobacco-related disease. • Provide the community coalitions more assistance in planning and evaluating their activities. • Provide technical assistance and evaluation feedback to schools in the educational cooperatives to move them to full compliance with CDC best practice guidelines for schools. • Provide the Arkansas Tobacco Control Board additional financial resources to conduct merchant education. • Place stronger expectations on the statewide coalitions to evaluate their activities and the effects they are having across the state. • Additional resources should be provided to the smoking cessation programs to help them expand and improve in specific areas they have been found to be limited, including pharmacotherapies for the Arkansas Foundation for Medical Care and advertising of the Mayo Quitline. • The ADH should take the initiative to identify all the smoking cessation activities funded by the Tobacco Settlement funds, and work with the other funded programs for a collaboration to coordinate the programs to more effectively serve a large number of Arkansas smokers. • Continue the statewide tobacco awareness campaign without a decline in intensity, and increase its coordination with other anti-tobacco media campaigns being operated across the state • The ADH should examine its media campaigns to ensure that they are consistent with the overall message the ADH wants to convey, and to assess its effectiveness in reaching Arkansans and changing their attitudes about tobacco use. • Provide more technical assistance to the Minority Initiative Sub-Recipient Grant Office on reporting, activities that are evidence-based, and evaluation. • All of the evaluation mechanisms the ADH is using should be finalized and adequate technical assistance provided to these mechanisms end-users. • ADH should enhance its tobacco-related disease efforts.

[1] Farley DO, Chinman MJ, D'Amico EJ, Dausey DJ, Engberg JB, Hunter SB, Shugarman LR, Sorbero MES. Evaluation of the Arkansas Tobacco Settlement Program: Progress from Program Inception to 2004. Working Paper. RAND Health: Pittsburgh, PA. July 2004. *(Note: This product is part of the RAND Health working paper series. RAND working papers are intended to share researchers' latest findings and to solicit informal peer review. They have been approved for circulation by RAND Health but have not been formally edited or peer reviewed. Unless otherwise indicated, working papers can be quoted and cited without permission of the author, provided the source is clearly referred to as a working paper. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.)*

College of Public Health (Univ. of Arkansas for Medical Sciences)	
Findings	***Recommendations***
• The COPH has worked effectively to meet its goals for its educational program, and has met the requirements of the Act. • Quickly built a curriculum, enrolled students, and provided them public health education • Providing education for the public health workforce, with approximately 20-30 percent of the public health students being ADH employees and many other students coming from other sectors of the public health workforce. • Increased the number of communities in which citizens receive public health training and expertise. • The COPH has also been a resource to the General Assembly, the Governor, State Agencies, and the community. • They have been successful in pursuing accreditation in a short time frame. The COPH has been successful in increasing its research dollars. Research funds have almost tripled from July 2001 to December 2003.	• The COPH should continue to hire more faculty, particularly diverse faculty • The COPH needs to provide evaluation expertise to their community partners to assess the impact of the work they are doing in the community • The COPH should maintain the discount for ADH employees • The COPH should provide scholarships and discounts for distance learning students • The COPH should provide assistantships to students to help support the cost of obtaining a degree
Delta Area Health Education Center (Arkansas AHEC Program)	
Findings	***Recommendations***
• The Delta AHEC has increased substantially the number of communities and clients served through the expanded AHEC/DHEC offices. However, it will need to continue to increase other sources of funding in addition to the Tobacco Settlement funds to reach more of the Delta population with needed services. • The Delta has a large disenfranchised population with needs for the services the AHEC provides, but this population tends to be distrustful of the health care system and has had a variety of access problems. The AHEC is working actively to reach this population, but improved networking and collaborative efforts will be needed to overcome this barrier by developing trust and participation. • By providing training for students in the fields of medicine, nursing, and various allied health professions, the Delta AHEC is performing many of the functions defined for the UAMS AHECs, but the Delta region does not have the medical infrastructure needed for the AHEC to operate a medical residency program or pharmacist training. • The Delta AHEC provides recruitment and retention activities for primary care providers to help increase access, but the active support of the local hospitals and physician community will be needed to increase the number of primary care providers in the region. • The Delta AHEC has been successful in leveraging additional funding in excess of $1 million per year to support their mission since 2001.	• Build additional program capacity so that needed health education programming for the community can continue to be expanded • Expand collaboration efforts to reach disenfranchised populations • Consider new methods to increase funding for and access to community health education services • As additional health education programs are developed, focus on programs that have demonstrated effectiveness. • Increase resources to conduct program assessment activities • Use the next appropriation cycle to adjust the distribution of the budget line items so that the appropriation better represents the Delta AHEC program spending needs. Continue to engage and educate local physicians

Arkansas Aging Initiative (Donald W. Reynolds Center on Aging)	
Findings	***Recommendations***
• The Arkansas Aging Initiative has done an excellent job in establishing seven centers on aging and, in most regions, senior health clinics, all of which are contributing to the health and well being of older Arkansans. The COAs have been able to create strong ties to their local communities, which will serve them well both in terms of continued support and for potential collaboration to increase outreach into the community. The staff in each region is interdisciplinary, which ensures access to the necessary expertise to provide all the necessary care and services to the local populations. The Reynolds Center on Aging still has challenges remaining to get some COAs fully operational. In some regions, the challenge has been to find a local hospital to be a viable partner in establishing a senior health clinic. In others, it has been to tease apart the roles of the COA and the AHEC and to find ways for them to work effectively together. There is still a need to find the right balance in allocating funds to administration of the program and providing services and care to the community, an issue that should decrease as the regional COAs mature.	• The RCOA and the regional COAs should continue to emphasize outreach to the counties most distant from the COA facility location. • The Central Leadership at RCOA should put more emphasis on and create more opportunities for regions to collaborate and build on the successes of the local Centers on Aging. • Given that many of the regions do not have co-located COAs and Schmeiding Health Center, the Arkansas Aging Initiative might want to consider ways to reduce perceived barriers to services and resources. • The AAI budgets should be reconfigured to better reflect the operational and capital needs of the COAs, and these spending needs should be reflected in the allocation of appropriated funds across categories in the next appropriation legislation.
Minority Health Initiative (Arkansas Minority Health Commission)	
Findings	***Recommendations***
• The AMHC has yet to release a prioritized list of health problems for minority populations, as specified in the Act, although it recently provided a strategic plan to address health care disparities that responds to one need that is well documented—that of inadequate access to and appropriateness of care for minorities. • The AMHC has utilized different approaches in its media campaign to increase awareness of hypertension, strokes, and other disorders. • The AMHC has organized screenings for hypertension, strokes, and other disorders, by working through other organizations rather than doing the screenings itself. • The AMHC contracts for intervention programs to treat hypertension and to improve blood pressure, nutrition and physical fitness, but it has experienced low utilization and quality problems in implementing these programs, and it has used only part of the funding appropriated for support of drugs and medication. • The AMHC has not established databases that meet the goals of the Act. The AMHC is currently working on improving the database associated with the Hypertension Initiative.	• Finalize the development of the prioritized list of health needs for minority populations, drawing upon available information from past research, best practices, and lessons learned from other communities working to reach similar goals. • Improve the staff skills and capacity to carry out program activities funded by the Tobacco Settlement funds, and to provide more oversight of contractors performing duties related to Act funding • The AMHC should establish an effective financial accounting system and it should use that system to track actual expenditures, consistency of spending on each of the contracts relative to the contract terms, and how much of the Tobacco Settlement funding was returned. • Increase resources dedicated to monitoring the performance of programs and assessing the effects of the programs on desired outcomes

Arkansas Biosciences Institute	
Findings	***Recommendations***
• ABI has been successful in building a steadily growing portfolio of research projects that focuses on the five research areas specified in the Act. • ABI has established several core facilities using the Tobacco Settlement funds. These facilities have created research efficiencies in the state that otherwise would not have existed. • ABI has successfully leveraged the Tobacco Settlement funds to bring in extramural funding at an average ratio of 2.8 extramural dollars for each Tobacco Settlement dollar spent on targeted research programs. • ABI has begun to disseminate findings through their fall symposium, scholarly publications, lectures and seminars, and contacts with the media.	• ABI should work to better publicize the ABI initiatives to the state of Arkansas and nationally. • ABI should begin to collaborate with the surrounding community. • Strategies should be identified to increase the collaborative process among the five institutions. • ABI should begin to examine outcomes of their program.
Medicaid Expansion (Arkansas Department of Human Services)	
Findings	***Recommendations***
• The strengths of the Medicaid Expansion Programs are that they have been built on existing staffing and information systems, which enabled rapid implementation of three of the four expansion programs. While these programs have consistently grown and enrolled more individuals, there is still a substantial need for more education and outreach so the general population can be reached and informed about the available programs. In addition, enrolled populations need to be educated better to ensure they understand what their benefits are under this coverage in terms of health care services. The AR-Adults program remains elusive, in part because the federal government's priorities have shifted in the last two years, making federal funds scarce. Any changes to the state Medicaid program have implications for the federal budget because of the state/federal match of funds.	• Dedicate some of the Tobacco Settlement funds for Medicaid program administration to support outreach and education of beneficiaries in the expanded Medicaid programs • The Department of Human Services should allocate more resources to increase the staffing in county offices • Medicaid staff should continue to work with Center for Medicaid and Medicare Services to develop an acceptable 1115 Waiver for the AR-Adults program

Program Evaluation Summary

The following program synthesis and recommendations are taken directly from the report prepared by the RAND Corporation, a nationally known independent external evaluator.[2] ***To distinguish RAND's verbatim text, a dark vertical line has been placed to the left of RAND's text.*** At its September 8 meeting, the Commission adopted RAND's recommendations with the exception of one—to increase the ADH program's funding to its original level—and also rejected the suggestion that this be done by shifting of program funding.

CHAPTER 12 SYNTHESIS AND RECOMMENDATIONS

The Initiated Act defined an extensive scope for the Arkansas Tobacco Settlement program. Its components include management of several trust funds, support for the seven individual funded programs, funding of construction loan debt service for three new buildings, and funding for the Tobacco Settlement Commission to provide oversight and monitoring of the program. We began this evaluation report by describing the policy context within which the priorities, goals, and funding allocations for the funded programs were established and currently operate. This context includes the functions of the Tobacco Settlement Commission, including its oversight of the funded programs and its funding of additional community grants with available funds generated by interest earned by the Tobacco Settlement trust fund. Then we examined the progress of each of the seven programs in fulfilling their mandates, as they developed and expanded their programming. Finally, we presented our findings regarding early effects of the programs on trends in tobacco use and other outcomes specific to each program.

In this chapter, we bring together all of these individual evaluation results to present a synthesis of the performance of the Tobacco Settlement Program and its funded programs. We also offer several recommendations for consideration by the Commission and the General Assembly regarding future directions for the use of the Tobacco Settlement funds. Some recommendations address issues we have identified in the operation of the current programs. Other recommendations address policy considerations that emerge from a review of the priority health needs for the state of Arkansas and an assessment of how well the scope of the funded programs are addressing these priority needs.

SUMMARY OF PERFORMANCE THROUGH FISCAL YEAR 2004

The Initiated Act stated basic goals to be achieved by the funded programs through the use of the Tobacco Settlement funds, and it also defined indicators of performance for each of the funding programs—for program initiation, short-term, and long-term actions. The basic goals are listed in Chapter 2.

As discussed in chapter 10, it is premature to draw conclusions regarding the programs' basic goals or long-term performance indicators. It is too early in the life of the programs to expect to observe many effects on health behaviors or health status, although some early results from our outcome analyses suggest that stronger effects may be seen within two to three years. We can and do, however, assess progress in implementing the programs.

[2] Farley et al, Evaluation of the Arkansas Tobacco Settlement Program, op. cit., pp. 181-201.

We summarize in Table 12.1 the performance of the seven programs on their initiation and short-term indicators. Based on our evaluation of the programs' activities and progress, we conclude that all except one of the programs achieved their initiation goals, and with two exceptions, they have achieved their short-term goals. We observed quite a bit of variation among programs in the length of their start-up times, which are reflected in the quarterly spending trends reported in the chapters for the individual programs. We note that these variations are driven largely by differences in the degree to which programs were building upon existing efforts. Those that were starting entirely new programs had a longer lag in operational growth during the first year than those that already had program foundations in place (e.g., Aging Initiative).

Table 12.1 Summary of Program Status on the Initiation and Short-Term Performance Indicators Listed in the Initiated Act

Indicator	Text of Indicator in the Initiated Act	Status
Tobacco Prevention and Cessation		
Initiation	The Arkansas Department of Health is to start the program within six (6) months of available appropriation and funding.	Goal met
Short-term	Communities shall establish local Tobacco Prevention Initiatives.	Goal met
College of Public Health		
Initiation	Increase the number of communities in which participants receive public health training.	Goal met
Short-Term	Obtain federal and philanthropic grant funding.	Goal met
Delta Area Health Education Center		
Initiation	Start the new AHEC in Helena with DHEC offices in West Memphis and Lake Village within twelve (12) months of available appropriation and funding.	Goal met
Short-Term	Increase the number of communities and clients served through the expanded AHEC/DHEC offices.	Goal met
Arkansas Aging Initiative		
Initiation	Start the program within twelve (12) months of available appropriation and funding.	Goal met
Short-Term	Prioritize the list of health problems and planned intervention for elderly Arkansans and increase the number of Arkansans participating in health improvement programs.	Goal met
Minority Health Initiative		
Initiation	Start the program within twelve (12) months of available appropriation and funding.	Goal met
Short-Term	Prioritize the list of health problems and planned intervention for minority population and increase the number of Arkansans screened and treated for tobacco-related illnesses.	Goal partly met
Arkansas Biosciences Institute		
Initiation	The Arkansas Biosciences Institute Board shall begin operation of the Arkansas Biosciences Institute within twelve (12) months of available appropriation and funding.	Goal met
Short-term	Arkansas Biosciences Institute shall initiate new research programs for the purpose of conducting, as specified in Section 15: agricultural research with medical implications; bioengineering research; tobacco-related research; nutritional research focusing on cancer prevention or treatment; and other research approved by the Institute Board.	Goal met

Medicaid Expansion

Initiation	The Arkansas Department of Human Services is to start the program initiatives within six (6) months of available appropriation and funding.	Goal partly met
Short-term	The Arkansas Department of Human Services demonstrates an increase in the number of new Medicaid eligible persons participating in the expanded programs.	Goal partly met; slow enrollments

One of the performance exceptions we identified is the Medicaid Expansion. This program was not able to implement one of its four Medicaid benefit expansions and has spent only a small fraction of its Tobacco Settlement appropriations. The failure to implement the AR-Adult program was due to refusal by CMS to approve the benefit expansion, despite the best efforts of the Medicaid program staff, because CMS had concerns that the program would not be budget neutral. The three expansion programs that were implemented spent much less than planned due to a combination of low enrollments and under-use of covered benefits by enrollees, in part due to inadequate outreach and communication to eligible individuals about the benefits available to them. These funds are to be used to support expanded health insurance coverage for low income individuals who do not have access to group health insurance and do not otherwise qualify for Medicaid. Instead, the unspent funds have been placed in the Rainy Day Fund to cover funding shortfalls for the Medicaid program.

The other performance exception is the Minority Health Initiative operated by the Arkansas Minority Health Commission, which met only part of its short-term goal. The management leadership of the AMHC changed soon after the Tobacco Settlement funds became available. The Minority Health Initiative was able to meet the goal of being initiated within 12 months of available appropriation and funding, but the change in management led to slow early progress in implementing its program components. The pace of growth continued to be slow through the following two years, even after new leadership was well established and running the program. This slow growth is observed in the weak trends for screenings and service activities performed by the program as well as in its under-spending of the Tobacco Settlement funds (see Chapter 7). In addition, the program did not meet its short-term goal of establishing a list of priority health problems and planned intervention for minority population.

The remaining programs generally have been very effective in implementing the activities mandated by the Act. For each program, we have identified issues that should be addressed and areas for needed improvement, but none of these issues are so large as to call into question the overall effectiveness of their program operation.

For both the Minority Health Initiative and the Medicaid Expansion, we offer specific recommendations for actions to address the shortcomings in achieving the desired scopes of their programs. These recommendations are presented at the end of the chapters that report the process evaluation results for their respective programs (Chapter 7 for the Minority Health Initiative and Chapter 9 for the Medicaid Expansion). As discussed later in this chapter, we believe that both of these programs are important components of a strategy to address the priority health needs of Arkansans. Therefore, it will be important to strengthen the programs, so they can make effective use of the resources made available by the Tobacco Settlement funding for serving those needs.

COMMON THEMES AND ISSUES

Although the experiences and lessons from each of the funded programs are unique, reflecting the diverse nature of the programs, some common themes and issues have emerged from this evaluation cycle that apply across the programs. We present these issues here along with recommendations for actions to strengthen the programs in the future.

Collaboration and Coordination Across Programs

As we observed the operations of the funded programs during our process evaluation, it became clear that some programs already were working together, and there also were opportunities for collaborative programming that had not yet occurred. Additional collaboration and coordination among the programs would strengthen their ability to serve the goals of the Act, to use the Tobacco Settlement funds more efficiently, and to enhance needed health services for Arkansans.

Recommendations. We encourage the programs to pursue opportunities for collaboration as their work continues. Some examples that could be pursued include:

- Delta AHEC, MHI, and COPH working together for training and recruitment of health professionals for the Delta region.
- Partnering of the Delta AHEC and MHI in the delivery of education and other health-related services to residents of the Delta region
- Coordination of the tobacco prevention and cessation program offered by the Delta AHEC and the ADH tobacco programming in the Delta region, to make optimal use of their combined resources.
- Within the ADH program, collaboration between the local community coalitions and other ADH programs to increase their impacts on smoking behaviors in the local areas served, including merchant inspections conducted by the Tobacco Control Board and the media messages of the SOS media campaign.
- Coordination of services provided by the MHI and the minority program that is part of the ADH tobacco prevention and treatment program.
- Collaboration between the COPH and the regional Centers on Aging, with their AHEC partners, to establish training programs in the AHEC regions for health care managers.

Governance Leadership and Strategic Direction

Throughout our process evaluation, we found that the programs tended to focus on the priority of getting their programs operational and starting service delivery. In that process, there was substantial variation across programs in the extent to which their governing bodies were engaged in the process or guided priorities and strategy. Now that the startup period is over and the programs are more mature, the governing bodies should be taking active roles in guiding the future strategic direction for the programs.

The diversity of the programs is reflected in the wide variety of governing bodies they have. The Initiated Act established a board of directors for the Arkansas Biosciences Institute and specified the membership of that board. Some programs, such as the Centers on Aging in the Aging Initiative, are components of much larger organizations, so they do not have a Board of Directors. Nor do other programs, such as the ADH, that are part of the state government. The Centers on Aging have established advisory committees that serve in a fund raising capacity, and some also provide policy guidance. The ADH has a Tobacco Prevention and Cessation Advisory Committee that was specifically required by the Initiated Act. In addition, separate state law created the Minority Health Commission to address minority issues, with Commission members appointed by the governor and the Commission staff reporting to this body.

Regardless of the nature of a program's governing or advisory body, these boards should be bringing added value to the programs as "arms length" observers and guides. The role of these bodies is especially important for those programs that are bringing together disparate organizations to collaborate on a program's activities. Obvious examples are the ABI Board and the advisory boards of the Centers on Aging.

Recommendation. We offer the following recommendations for program governance:

- The governing boards or advisory boards of the funded programs should work with program management in defining a clear direction for the program, and should perform a constructive oversight function to ensure the program is accountable for quality performance.

- Individuals who can provide expertise on the goals defined for the program by the initiated Act should be included in the membership of the program governing boards or advisory boards. For example, under the MHI, the AMHC now is expected to deliver effective health interventions in minority communities in addition to its original advocacy role, but the composition of the Commission has not been changed to reflect this expanded mission.

Monitoring and Quality Improvement

As we worked with the funded programs to collect data on the process indicators, we observed that several of the programs experienced difficulties in collecting this information. This issue reflects the fact that few of the programs have put into place an internal accountability mechanism for regular monitoring to track the program's progress and provide feedback on results. Such a monitoring process, when well implemented, is essential for performing regular quality improvement and assessing how well each program component is meeting its goals.

The programs also have external accountability for performance, as legislators and other state policy makers want to know whether the investment in these programs is achieving the intended results in health status improvement. The RAND evaluation provides information for the external accountability, as well as the perspective of an external observer. However, RAND depends on data provided by the programs to inform its analyses. Furthermore, the programs themselves need to be able to document and report on their performance to these external stakeholders, beyond the scope of the external evaluation.

Recommendations. We offer the following recommendations for actions the programs should take to monitor and improve quality and to assess their effects on health outcomes:

- Drawing upon the basic principles of continuous quality improvement methods, the funded programs should have in place an ongoing quality monitoring process that has the following key elements:
  - a set of valid indicators that represent key performance aspects of the program;
  - the collection of data as an integral part of the program operation, including data on program enrollments, demographic characteristics of enrollees, service encounters, feedback from enrollees through surveys or other data collection, and outcomes;
  - corrective actions taken on the issues identified in the monitoring process to address problems and strengthen service delivery; and
  - regular analysis of the data and reporting to the program management and oversight board and committees.
- The performance indicators and corrective actions should change over time to bring about ongoing, incremental improvements in the program operation.
- The long-term goals for the programs specified in the Act should be revised periodically to establish more appropriate and measurable goals that address the key effects the programs should be achieving.
- Sufficient resources should be allocated to build capacity at the program and community levels to ensure that they can comply with the above recommendations, including investments by programs in staff training as well as technical support from the Tobacco Settlement Commission.

Financial Management

For most programs, our analysis of the spending of Tobacco Settlement funds was complicated by a diversity of problems, ranging from an inability to extract data from the state finance system to incomplete or inaccurate records maintained in programs' local accounting systems. The notable exception was the ADH Tobacco Prevention and Cessation program, which has a well-structured set of accounts that delineates spending for each of its program components and provides usable information for the program management on a regular basis.

The troubling finding from this experience is that few of the programs have tracked their spending trends closely over time as part of their normal management processes, and some of the

programs do not have systems in place that enable them to do so. It appears that the programs have tended to focus their accounting activities on reporting requirements for the state and to rely on related reports for their financial information. We have identified issues in two areas: budgeting for the appropriation process and the program financial management and accounting. Presented here is a summary of issues and recommendations for each area.

The appropriation process and fund allocations. The first appropriations for the Tobacco Settlement programs (for fiscal years 2002 and 2003) allocated the funds to specified budget line items based on budgets developed by the programs and submitted to the state. The appropriations legislation prohibited spending in excess of the appropriated amount for each budget item without the approval of the Legislative Council, a requirement that was continued in the appropriations legislation for fiscal years 2004 and 2005.

During the initial budgeting process for the programs, an unfortunate combination of issues arose that resulted in appropriation allocations across expense classifications that did not fully match the operational needs of some of the programs. One issue was the newness of the programs. Because the programs did not have previous operating experience to guide their initial budgeting, it was difficult for them to project growth and related expenses during the startup period. Another issue was inadequate information on the definitions of the line items in the appropriations, such as travel expenses or capital outlays. For example, by definition, the travel expense line item covers only out-of-state travel costs, but at least one of the programs used that line item for in-state travel expenses in their budget. A third issue was the short time the programs were given to develop and submit budgets to the state. The programs reported they were given only hours to develop their initial budgets, which contributed to errors in estimating the budget allocations.

Some of the programs felt the constraints of the appropriation funding allocations more than others. For example, the Aging Initiative found that too much of its funding was allocated to capital outlays and too little to operating expenses. This situation led to the swapping of expenses between partnered AHECs and COAs that we describe in Chapter 6. The Delta AHEC had budgeted travel expenses that they thought could be used for in-state travel, but they were not able to use those funds because the line item was restricted to out-of-state travel (see Chapter 5). One of the institutions in the ABI ended up returning some personal service matching funds that it could have used for operating expenses (see Chapter 8).

The problems with the appropriations are observable in the spending adjustments and inconsistencies in reported spending that we found in our spending analysis, both of which made it difficult to interpret spending trends. We also heard frequent reports by program staff working with the state financial system that they have developed techniques for working around constraints in the appropriations. (See examples in the spending analyses in Chapters 5 and 6.) As the program leaders prepared for the second biennial appropriations, they were reluctant to make substantial changes to the fund allocations for fear of opening up the entire package to funding changes or reductions. This reluctance stemmed from their perceptions that continued program funding was at serious risk, as they saw legislators looking for ways to shift the Tobacco Settlement funds away from support of their programs to supporting other financial needs of the state. In particular, the UAMS executive management decided to retain the original line item allocation of funds the second appropriations for all of the programs funded through its system. These included appropriations for the Aging Initiative, Delta AHEC, College of Public Health, and the UAMS portion of the ABI.

As a result of the inaction by the program leadership in correcting the earlier problems with the appropriations, the spending constraints experienced by the programs in the first two fiscal years were perpetuated in the FY 2004-05 appropriations. These constraints hindered several programs from using their funding effectively, in particular because distributions that are appropriate during a program's start-up phase typically differ from its subsequent operating needs. In addition to creating inefficiencies in the operations of some programs, this decision has led to intense

discomfort on the part of program staff regarding the accounting practices they have employed to be able to use the available funds. This year offers an opportunity to establish new appropriations that better reflect the actual spending needs of the programs.

Recommendations. To this end, we offer the following recommendations:

- The state should use the upcoming appropriations process to enable the programs to start fresh with budgets that accurately reflect their actual operating expenses by line item. The state should provide the programs with clear definitions of the appropriation line items as well as guidance for the budgeting process, so that programs understand clearly how they can use funds in each line item to support their activities.
- The programs should restructure the budgets they submit to the state for the next appropriations process so that allocations of spending across line items reflects actual program needs and are consistent with the appropriations definitions.

Financial management and accounting. Some of the programs have the needed financial staff in place, but several are lacking in some aspect of the bookkeeping or accounting skills needed for effective financial management. Additional training and support should be provided to the programs, as needed, to strengthen their ability to document their spending accurately and to use this information to guide program management.

Recommendations. We offer the following recommendations for actions to be taken:

- Every program should have in place a *local* automated accounting system that it uses to record expenditures as they occur and to report spending to its governance and management on a monthly basis. This system would provide the detailed financial information needed for program management that are not provided by the larger systems within which many of the programs work (e.g. the state or UAMS financial systems).
- The personnel who perform the accounting function in each program should have the relevant qualifications, including training in bookkeeping or accounting as well as in the accounting systems being used. Programs whose personnel do not have these qualifications should train existing personnel as needed or hire qualified personnel.
- Within the programs' local accounting systems, separate accounts should be set up for each key program component so that the program can budget for and monitor spending by component.
- The management of the programs should monitor program spending on a monthly basis using income statements and support documentation, and financial statements should be reported to the program governing body at every meeting. Variations from budget should be identified and explained.
- The staff responsible for the program financial function should be given formal training on use of the relevant external accounting system to which their programs report expenditures (e.g., state system, UAMS system).

Monitoring by the Tobacco Settlement Commission

The Tobacco Settlement Commission has an important role in ensuring the effective use of the financial resources that the Tobacco Settlement has provided to Arkansas. As discussed in Chapter 11, the Initiated Act established the Commission to oversee the programs supported by the Tobacco Settlement funds, to monitor the programs activities, and to evaluate their effects on the health of Arkansans. The RAND evaluation is part of the monitoring and evaluation process established by the Commission under this mandate. The Commission can use the information and recommendations in this report to guide its future activities, as it continues to oversee the programs' performance and to provide support for programs to correct identified shortcomings.

During the initial years of program operation, the programs and the Commission have focused on getting the programs operational and beginning service delivery. The programs now are moving into the next phase of their operations, consolidating their existing activities and planning

for future development and growth. As the programs move forward, it will be important for the Commission to hold them to uniformly high standards of performance and results.

Recommendations. We offer here our recommendations for Commission actions:

- The Commission should modify the content of the regular quarterly reports from the programs to require routine reports on their progress in addressing the issues identified in this evaluation. General issues to be addressed include:
  1. involvement of the programs' governing body (or advisory boards) in guiding program strategy and priorities
  2. specific progress of the programs in achieving the goals and objectives of their strategic plans,
  3. actions being undertaken for continuous quality improvement and progress in improving services, and
  4. actions being taken for collaboration and coordination among programs to strengthen programming.

Each program's quarterly report also should address the program-specific issues and recommendations presented for it in this report (in each program chapter).

- The Commission should work with the state finance office and the funded programs to ensure that the programs are correcting the inadequacies of the accounting and financial management processes that this evaluation has identified.
- To ensure that program spending is being monitored regularly, the Commission should require the programs to submit quarterly financial statements of budgeted versus actual spending. The financial statements should be in sufficient detail to enable the Commission to identify variances from budget, and explanations of variances should be provided.
- The Commission should earmark a modest portion of the Tobacco Settlement funds ($150,000 to 200,000 each year) to finance a mechanism of external consultants that makes technical support available to the funded programs. This support should be targeted to help the programs correct some of the issues summarized in this chapter and discussed in further detail in chapters 3 through 9. The support could include, for example, support for data collection for performance measures, needs assessments, budgeting, or grant writing. It also can be a useful resource when programs have short-term needs for specific skills or knowledge that their staff do not have. For example, the COPH would be one appropriate resource to provide such technical support.
- The Commission should establish expectations for the performance of the governing bodies of the funded programs with respect to providing policy and strategic guidance for their programs, as well as monitoring program performance.
- As the programs mature further, and more longitudinal information becomes available on outcomes, the Commission should ensure that outcome evaluation work continues to document the extent of those effects. Meanwhile, the Commission should interpret early outcome information with caution to ensure that conclusions regarding the programs' effectiveness are grounded on sufficient data.

ARE THE GOALS IN THE ACT THE CORRECT GOALS?

As discussed in Chapter 2, the process that generated the program and funding mix for the Arkansas Tobacco Settlement funds was a "grassroots" process that involved numerous stakeholder groups with health care concerns. In addition, the ACHI informed the process with a position paper on the use of the Tobacco Settlement funds and with data on the health status of Arkansans and health care services provided in the state (ACHI, 1999). Therefore, this process yielded a set of programming priorities that reflected the important health needs of the state at the time it took place. Some priorities may have been missed as the funding allocations were originally designed, however, or priorities may have changed in the intervening years.

Another role for this evaluation is to step back and look at the larger picture, to review how well the scope of services provided by the seven funded programs responds to the current state health priorities. We examine this question here, drawing heavily upon data generated by the Tobacco Settlement programs themselves, as they performed needs assessments and developed information on other health care issues in the state. We first present summary information on the current health status and access to health care for Arkansans, updating the information provided by ACHI (1999) in its position paper on use of the Tobacco Settlement funds. Then we assess the extent to which the programs supported by the Tobacco Settlement funds are addressing those priority needs. Finally, we offer some recommendations to adjust spending of the Tobacco Settlement funds to be responsive to the priority health needs of the state, for consideration by the Tobacco Settlement Commission.

Top Health Priorities for Arkansas

We have identified the following areas that should be considered in identifying health priorities for the state: the health status of the population, health care needs of the older population, availability of health care services, disparities in access to health care, insurance coverage, and expanded knowledge through health research. We provide here a summary of the issues identified for each of these areas.

Health Status

- Arkansas has a higher overall death rate than the rest of the country,
- Heart diseases and cancer are the top two killers in Arkansas, as well as for the country.
- Hypertension is a serious risk factor for heart disease, with disproportionate prevalence in minority populations.
- Obesity, smoking, and physical inactivity are the most important preventable contributors to morbidity and mortality in general, as well as to heart disease, cancer, and stroke.
- Rates of both infant mortality and low birth weight in Arkansas are substantially higher than those for the U.S., and rates for births to African American women in Arkansas are higher than those for white women.

According to mortality data on the ADH web site, age-adjusted death rates in Arkansas are 11 percent higher than those for the U.S. Deaths from heart disease and cancer substantially overshadow the next ranked causes of death for both Arkansas and the country. According to a report by the National Heart, Lung, and Blood Institute (Chobanian, et al., 2003), the risk of cardiovascular disease increases continuously with blood pressure levels. Hypertension affects approximately 50 million individuals in the United States, and current control rates are still far below the Healthy People 2010 goal of 50 percent; 30 percent are unaware they have hypertension. Adoption of healthy lifestyles is critical for prevention and management of hypertension, including weight reduction in those who are overweight or obese, physical activity, dietary sodium reduction, and moderation of alcohol consumption.

Arkansas rates for obesity, smoking, and physical inactivity are higher than those for the U.S., as reported in the briefing to legislators prepared by the College of Public Health in collaboration with the ACHI and the Arkansas Department of Health (2003). Reductions in these behaviors can reduce mortality rates for the two top killing disease as well as for stroke. Arkansas has the highest rates of stroke mortality in the nation; and rates are particularly high among African-American men.

The Arkansas infant mortality rate was 8.3 deaths per 1,000 live births in 2000, according to birth data on the ADH web site, compared with 8.5 deaths per 1,000 live births in 1999 and a national average of 6.9 deaths per 1,000 live births. African American infants in Arkansas had an infant mortality rate of 13.6, compared to a rate of 7.0 for white infants. The Arkansas rate of low birth weight births also is higher than the U.S. rate. The Arkansas rate in 2000 was 8.6 percent of low-birth weight births, compared to 7.6 percent nationally. The rate among white infants decreased from 7.4 percent in 1999 to 7.2 percent in 2000, while the rate among African American infants increased from 12.9 percent in 1999 to 13.8 percent in 2000.

Health Care Needs of the Older Population

- The elderly population represents a larger percentage of the total population in Arkansas than in the country.
- The most important health problems reported by older adults are arthritis, high blood pressure, and heart trouble.
- The most important health needs reported by older adults were affordable prescription medications, affordable health care, and affordable health insurance.

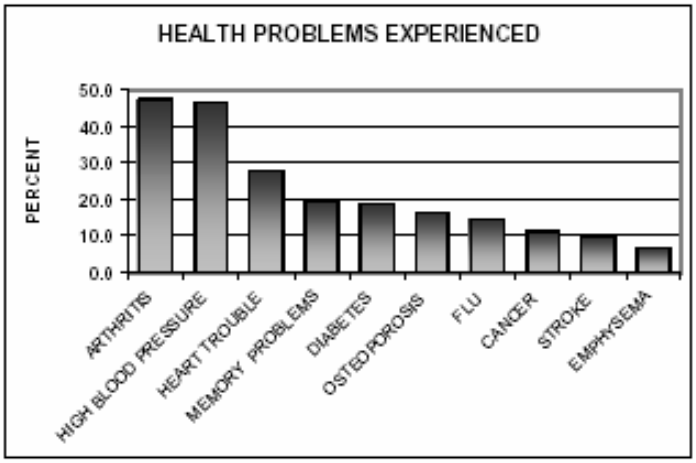


Figure 12.1 Health Problems of Older Adults

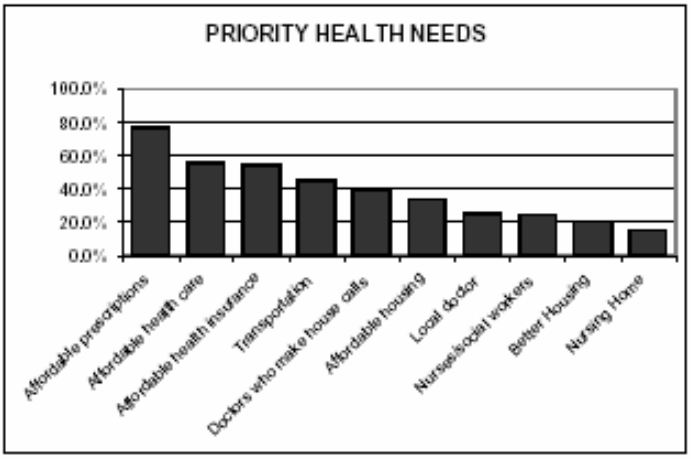


Figure 12.2 Priority Health Needs of Older Adults

Data from the 2000 Census show that persons age 65 years or older are 14.0 percent of the total Arkansas population, which is a decrease from 14.9 percent in 1990. The percentage of elderly in Arkansas is higher than the 12.4 percent of elderly in the total U.S. population.

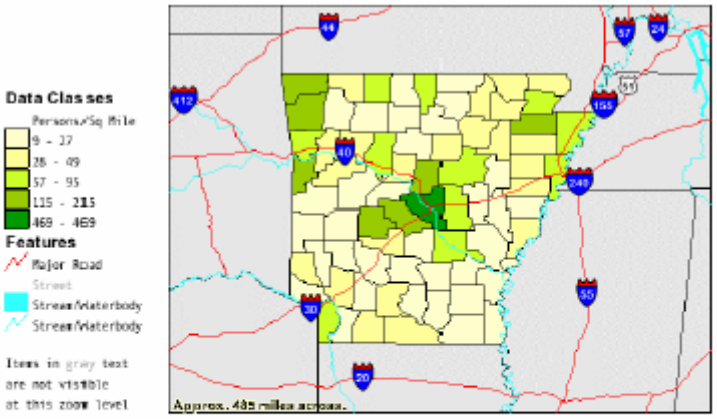
One of the first tasks undertaken by the Arkansas Aging Initiative was to perform an assessment of the health care needs of the older population in the state. Separate needs assessments were performed in each of the seven regions to be served by the new Centers on Aging that were established with support of the Tobacco Settlement funds. The results of the needs assessment guided the Aging Initiative programming. Collectively, these efforts yielded statewide information on the needs of Arkansans older than 65 years, which can help guide

identification of health priorities for the state. The health problems and priority health needs reported by the older adults in the needs assessment performed by the Aging Initiative are displayed in Figures 12.1 and 12.2 respectively (Beverly, 2003).

Availability of Health Care Services

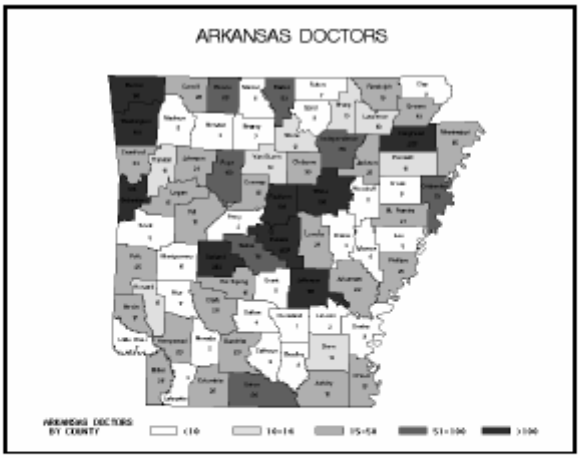
- Arkansas has shortages of health care practitioners in the rural areas of the state.
- Many rural hospitals have converted to critical access hospitals, taking advantage of special Medicare payment policies to retain rural hospital capacity.

Given the broad range of services involved in health care, it is difficult to characterize the availability of services succinctly. In this discussion, we examine the supply of physicians, availability of community health centers as other sources of primary care, and access to hospital services, focusing on service availability in rural areas of the state. As shown in Figure 12.3, Arkansas is a rural state, with many of the counties having low population densities.



Source: Census 2000 Summary File

Figure 12.3 Population Density for Arkansas Counties, Census 2000



Source: Arkansas Department of Health, Center for Health Statistics. The Health Professions Licensing Survey Manpower Statistics, 2002. (from the website http://www.healthyarkansas.com/stats/hpl2002/DOCMAP.HTM).

Figure 12.4 Number of Physicians Serving Arkansas Counties

Like other rural states, Arkansas has shortages of providers in the rural areas, which are revealed through several measures. The most obvious measure is the supply of health care practitioners. Figure 12.4 charts the number of physicians by county in Arkansas. Comparing the distributions of population density in Figure 12.3 and physicians in Figure 12.4, it is clear that counties with lower population density have fewer physicians. Reflecting this pattern, more than half of Arkansas counties have been designated as health professional shortage areas (ADH Office of Rural Health, 2002). There are more than 40 community health centers serving in rural areas of the state (COPH, et al., 2003). These clinics provide primary care services in areas with under-supplies of physicians.

Another common challenge for rural areas is maintaining access to hospital inpatient care. In response to this challenge, the Medicare program established a program of critical access hospitals (CAC), including special payment provisions, to help retain hospitals in rural areas. The CACs are down-sized primary care inpatient hospitals with a small number of beds. Their role is to receive and stabilize patients, treat those with uncomplicated problems, and transfer those requiring more specialized care to larger hospitals outside of the immediate area. Arkansas has 17 CACs distributed across its rural counties (COPH, et al., 2003).

Disparities in Health Care

- There are substantial differences between African Americans and whites in Arkansas for health status and mortality rates.
- African Americans reported they were suspicious of the health care system, expressing distrust of physicians, insurers, hospitals, and pharmaceutical companies based on experiences in obtaining health care.
- Many minorities reported they have experienced discrimination from health care providers in the form of assumptions about their background and understanding based on language or color.

The Minority Health Commission supported a study of health disparities for Arkansans by faculty in the College of Public Health that examined disparities in health status, mortality rates, and experiences with the health care system. This study, which was funded in part by Tobacco Settlement funds and in part by appropriations authorized by state legislation, generated rich information that highlights a variety of health disparities for minority populations in the state (Nash and Ochoa, 2004).

The Nash and Ochoa study found strong differences between African Americans and whites in health status and mortality, with African Americans experiencing lower health status and higher death rates, both overall and by leading causes of death. In particular, compared with other groups, African Americans were 242 percent more likely to die from HIV/AIDS, 150 percent more likely to die from diabetes, and 143 percent more likely to die from prostate cancer. Similar contrasts were found for experiences with the health care system, which were reported from a series of focus groups conducted by the Nash and Ochoa study. The African American participants reported suspicion with the health care system that they had developed based on experiences in obtaining health care. They expressed distrust of physicians, insurers, hospitals, and pharmaceutical companies. Individuals for whom English was not their first language experienced barriers due to communications problems and unavailability of translation services. Many participants reported they experienced discrimination in the form of assumptions made about their background and understanding based on language or color. All of these factors were cited as barriers to obtaining access to appropriate care.

Insurance Coverage

- Estimates of rates of uninsurance in Arkansas are very similar to those for the country.
- Arkansans age 19 to 64 years have the highest rates of lack of insurance coverage of all age groups.

According to the MEPS survey performed by the Agency for Healthcare Research and Quality, 15.8 percent of Americans were uninsured in 1999. By age group, 23.1 percent of children and adolescents were uninsured, and 19.7 percent of those age 19-64 were uninsured (Rhoades and Chu, 1999).

Estimates are very similar for Arkansas, according to a report by the Arkansas Center for Health Improvement (2002). An estimated 15 percent (~0.4 million) of Arkansans were uninsured in 2001. Coverage differed by age; 13 percent of children and adolescents were uninsured, and 20 percent of adults age 19 to 64 were uninsured. The difference between Arkansas and the US in insurance rates for children and adolescents probably reflects the presence of the ARKids First program.

Expanded Knowledge Through Health Research

As discussed in Chapter 1, ACHI developed a position paper on spending the Arkansas Tobacco Settlement funds that laid out four principles to guide the allocation of the funds to better the health status and well being of Arkansans (ACHI, 1999). One of these principles was to spend funds on long-term investments that contribute to this goal, including health research to advance knowledge of tobacco's effects on health and to develop tools to prevent future tobacco-related illness.

How the Funded Programs Address the Priority Health Issues

All of the state's priority health issues identified here are being addressed in some way by the programs supported by the Tobacco Settlement funds, as shown in Table 12.2. However, we have identified some areas of incomplete or limited coverage that we describe here for the Commission's consideration.

Table 12.2 Arkansas Health Issues Addressed by the Tobacco Settlement Programs

State Health Priority	ADH	COPH	Delta AHEC	AAI	MHI	ABI	Medi-caid
Populations served/addressed	All	All	Delta Region	Elderly	Minor-ities	All	Poor
Health Issues:							
Smoking	X	X	X	X		X	
Obesity	X	X	X	X	X	X	
Inactivity	X	X	X	X	X		
Hypertension		X	X	X	X		
Infant mortality; low birth weight		X	X		X	X	X
Medical services in rural areas		X	X	X			X
Disparities in health care		X	X	X	X	X	X
Health needs of older population		X	X	X	X		X
Health insurance coverage							X
Health research	X					X	

The health issues that are most completely addressed by the Tobacco Settlement programs are smoking, hypertension, health needs of the older population, health insurance coverage, and health research. For smoking, the ADH program is a comprehensive, statewide program. It is complemented by community education activities by the Delta AHEC and Aging Initiative, professional education activities of the College of Public Health, and relevant research by COPH and the ABI institutions. Hypertension is addressed directly by several programs, including the Delta AHEC, AAI, and MHI, as well as research performed at the COPH. The hypertension services of the Delta AHEC and MHI are serving only the Delta region, targeting this high priority health issue for the minorities living in the region.

For health needs of the older population, the Aging Initiative is a statewide program of educational services provided by the Centers on Aging and coupled with clinical services provided by local or regional hospitals through the Senior Health Centers affiliated with the COAs. In addition, the Delta AHEC provides preventive health programs for elderly residents in the Delta region, MHI serves elderly minorities, the Medicaid AR-Seniors provides health care coverage for the poor elderly, and the COPH provides professional education programs.

For health insurance coverage, the Medicaid expansion provides insurance coverage for low income individuals across the state whose incomes are too high to quality for regular Medicaid benefits. Through this expanded coverage, Medicaid also addresses disparities in health care, needs of the elderly, and services in rural areas.

The expanded Medicaid coverage for pregnant women specifically addresses infant mortality, low birthweight by expanding access to prenatal care. The Delta AHEC and MHI also are addressing birth outcome issues, as is research performed by the COPH and ABI.

The Delta AHEC addresses many of the other priority health issues through its community education and health prevention programs, but these services are available only to residents of the Delta region. Although other AHECs serve other regions, they generally have less comprehensive community programs than the Delta AHEC, tending to focus instead on the health practitioner training aspect of their roles.

The health issues that appear to have the least coverage by the Tobacco Settlement programs are the health behavior issues of obesity and inactivity, health disparities, and the issue

of medical care services in rural areas. Community programs on obesity and inactivity are being provided by the ADH using funds taken from the tobacco prevention and cessation program, and the Delta AHEC and MHI also are providing services in parts of the state. The COPH also has made a commitment to ensure the focus on obesity as one of the two major foci of the College (along with tobacco), and it is focusing on health behavior aspects of obesity and physical inactivity in its educational, research and service programs. However, the state's programming activities and resource commitment to address these behavioral problems do not yet appear to be of a magnitude that is comparable to the size of the problems.

The Nash and Ochoa study highlights the unresolved issues of disparities in access to and appropriateness of health care for minority populations. In response to their findings, the AMHC developed a strategic plan that provides a starting point for action, and this plan calls upon a range of agencies and organizations to contribute to correcting the inequities in health care. Through the resources of the MHI program, the AMHC has a leadership responsibility for this initiative as well for fulfilling the remainder of its mandate to provide screening and programming for priority health needs of the minority populations in the state.

With regard to rural health professionals, both the Delta AHEC and the COPH are working to build the supply of professionals through training and recruitment efforts, but their efforts have been limited by either geography (the Delta region) or the newness of the program (COPH).

The COPH is training public health professionals who come from all parts of the state, and as these students graduate, many of them are likely to find jobs within the state, which will strengthen the public health service infrastructure. However, there remains a need to increase the supply of health care professionals in rural areas, especially primary care physicians.

RECOMMENDATIONS REGARDING PROGRAM FUNDING

The programs supported by the Tobacco Settlement funds provide an effective mix of services and other resources that respond directly to many of Arkansas' priority health issues. In addition, the College of Public Health and the Arkansas Biosciences Institute are building educational and research infrastructure that will make long-term contributions to the state's health needs. The programs, with but two exceptions, have achieved their initiation and short-term goals, and each programs is making valuable contributions to addressing the health priorities for the state. As the programs continue to grow and mature, and as they continue to leverage the Tobacco Settlement funds to attract other resources, their impacts on health needs also can be expected to increase.

Overall Recommendation Regarding Continued Program Funding. We recommend that the Tobacco Settlement funding continue to be provided to the seven programs that receive these funds. At the same time, the performance expectations for the programs during the next two years should focus on achievement of the outcomes relevant to each program. In addition to this overall recommendation, we offer the following suggestions regarding possible funding adjustments and related issues for some programs, for consideration by the Commission, Governor, and General Assembly in their policy deliberations.

Minority Health Initiative

This program is uniquely positioned to address directly the health needs and priorities of the minority populations in the state. Although the MHI is substantially behind schedule in establishing its full program operation, it should be given every opportunity to fulfill its mandate under the Act because of the importance of its role in addressing minority heath care issues. However, the unspent MHI funds represent services that have not been made available to minority populations with health needs. Therefore, should the under-spending by the MHI continue, action should be taken to ensure that the resources are put to work in serving those needs.

Recommendation: The Commission should work with the Minority Health Commission to help strengthen its MHI programming, set priorities for actions, and fully apply its funding resources to programming for the health needs of minority populations. If the MHC continues to under-spend its Tobacco Settlement funding through fiscal year 2005, then its funding share

should be reduced to the level it is spending and the unused resources should be applied to other programming that addresses the health needs of minorities.

Tobacco Prevention and Cessation Program

As discussed in Chapter 3, several pieces of legislation redirected some of the funding intended for the ADH Tobacco Prevention and Cessation Program to other public health activities. As a result, the ADH program currently is funded at levels below the CDC recommendations for tobacco prevention and cessation programs. In addition, its share of the total Tobacco Settlement dollars now is smaller than what the Initiated Act had designated for tobacco prevention and cessation activities. Some of the funding was taken to support the ADH obesity program, which indeed is another priority health issue for Arkansas. However, funding reductions for tobacco prevention and cessation programming impede its ability to have an impact on smoking behaviors, and any further loss of resources will weaken it yet further.

Other key components of a comprehensive tobacco control program are legislation that bans on smoking in public areas and increased taxes on tobacco products. Both actions would help to reinforce the scope of tobacco control activities and services carried out by the ADH. Arkansas has increased tobacco taxes but currently does not have statewide bans on smoking in public places.

Recommendation: The funding share for the ADH tobacco prevention and cessation program should be increased to return its funding level for tobacco prevention and cessation activities to levels that comply with the CDC recommendations.

Recommendation: The state should move forward with legislation to ban smoking in public places, with a goal to expand the scope of the ban over time, which would reinforce the actions already being taken by the ADH and other organizations to achieve and maintain behavior changes for Arkansans and reduction in smoking rates.

Three general approaches might be undertaken to bring funding for the ADH Tobacco Prevention and Cessation program up to the minimum levels recommended by the CDC: (1) obtain additional funding external to the Tobacco Settlement funds, (2) return the funds originally designated for the ADH program to the program, or (3) shift funding among the Tobacco Settlement programs. The most constructive of these options is to obtain additional external funding to bolster the total amount spent on tobacco prevention and cessation activities. The other approaches of returning funds previously taken from the ADH program or shifting funds from other Tobacco Settlement programs would negatively affect other programs that are serving the state's health needs. In addition, the third option would require changing the funding share provisions stated in the Initiated Act.

Several actions recently have begun in the state to provide additional support for tobacco prevention and cessation. These initiatives will apply additional financial resources that can bring Arkansas closer to compliance with the CDC minimum funding guidelines. One of these is new coverage by the Arkansas State Medicaid program for smoking cessation drugs and professional consultation services, effective October 1, 2004. This program is estimated to cost approximately $3 million per year, with the state match paid from state general revenue.

In addition, the Arkansas State Employees and Public School teachers' plan has added tobacco prevention and cessation services as a covered benefit for its 128,000 enrollees, funded by the Employee Benefits Division. This package includes expansion of coverage for preventive care services to all health plans (previously covered only in the managed care option), elimination of employee cost sharing for these services, addition of tobacco cessation program and pharmacological support to all plan benefit packages, and establishment of a premium reduction for healthy lifestyle based on tobacco use and other health-related behaviors. At the time of this report, we did not have information on the estimated cost of this package or what portion of total costs are related to the tobacco provisions.

As the state considers alternatives for increasing financial resources for tobacco programming, it should track existing and planned funding for each of the nine program components for which the CDC recommends minimum funding levels. These components are community programs to reduce tobacco use, chronic disease programs, school programs, enforcement, statewide programs, counter-marketing, cessation programs, surveillance and Evaluation, administration and management. As shown in Table 3.10 (in Chapter 3), current funding levels fall short of the CDC recommendations for five of the program components, and ideally, any new external funding should be applied to help strengthen the financial support across the nine components.

Medicaid Expansion

The underspending of the Tobacco Settlement funds for this program has two consequences for the state. The first is the absence of insurance coverage for people in poverty who were intended to be reached by these expanded benefits, with its concomitant effects on health status and outcomes. The second is loss of federal funds that the state obtains through the matching of three dollars of federal Medicaid funding for every state dollar spent on health care services. Some of the funds not spent on the expansion programs indeed are being used through the Rainy Day Fund to cover Medicaid shortfalls. However, the intent of the Initiated Act was to use the funds to provide insurance coverage for individuals not otherwise eligible for Medicaid. We offer some options here to better fulfill that intent.

The first use of the unspent Medicaid expansion funding that we suggest is to invest in building enrollment in the three existing expansion programs to expand use of these benefits by individuals who need the services and cannot otherwise afford them. As we learned in our evaluation, many eligible individuals are not aware of the expanded benefits, and many of those who are aware of the benefits are not using services fully because they do not know which services are covered. Expansion of enrollment and service use also would bring with it the federal matching funding.

> ***Recommendation:*** A portion of the appropriation for the Medicaid expansion program should be budgeted and used to support community outreach on the expanded benefits and education of enrollees on the health care benefits available to them.

The unspent Medicaid expansion funding is an available resource that also could be used to expand services for health behaviors that are preventable factors for the health priorities of heart disease and cancer. Although we believe that the first goal should be to increase enrollments in the existing Medicaid expansion programs, any remaining funds could be put to good use by expanding coverage preventive services for Medicaid beneficiaries.

> ***Recommendation:*** Consider applying some of the unspent funding for the Medicaid expansions to establish another Medicaid expansion that would provide coverage for evidence-based, preventive health and treatment services for obesity and inactivity.

Another alternative for use of the unspent Medicaid expansion funds would be to enhance Medicaid payments for physicians serving underserved areas, to encourage them to participate in Medicaid, and in turn, which could improve access to care for low income residents in those areas. These additional payments also might contribute to a package of incentives for recruiting physicians to increase physician supply in rural areas. We are more tentative in offering this suggestion, however, because experience with the Medicare program has shown that this incentive is difficult to implement effectively.

> ***Recommendation:*** Evaluate the feasibility and value of establishing a 20 percent Medicaid bonus payment for physicians providing primary care services to residents of rural health professional shortage areas in the state, again using some of the unspent Medicaid expansion funding.

CONTINUED EVALUATION ACTIVITIES

As the Tobacco Settlement programs move forward in the services and activities being funded, they will continue to grow to the extent they are able to leverage this funding to attract additional support from other sources. The growth and maturity of the programs should lead to increased impacts on relevant outcomes, and the programs increasingly should be held accountable for these outcomes over time.

Given these programming trends, the evaluation of the Tobacco Settlement programs should shift toward a focus on program outcomes, while maintaining monitoring of program progress. Routine monitoring should proceed to ensure that new issues are identified and addressed as they arise. The monitoring will consist of continued data collection on the process indicators established in the first evaluation cycle, as well as continued gathering of information on program activities in the quarterly progress reports. In particular, the progress of the programs in addressing the issues and recommendations presented in this report will be tracked in the evaluation.

The outcome evaluation will continue to assess trends for the measures reported in Chapters 10 and 11 of this report, as data for additional years become available to enable us to test effects on trends. We suggest analysis of additional data including Medicaid claims and death certificates, as well as comparisons of Arkansas's trends in all measures to those in surrounding states and in nation. We encourage the ADH to increase the BRFSS sample size, so that more precise county and regional estimates can be created to better assess local trends in smoking behaviors. Similarly, we will work with individual programs to identify other potential data sources and measures that can provide useful information on outcomes for their activities. Institutionalizing recent improvements in data collection methods and increasing resources for measurement and analysis will assure that decision makers can determine which goals are being successfully met and which require additional attention.

DISCUSSION

The Arkansas General Assembly and Tobacco Settlement Commission have much to be proud of in the investment made in the seven programs supported by the Tobacco Settlement Funds. These programs in general have made substantial progress in expanding and strengthening the infrastructure to support the health status and health care needs of Arkansas residents. Although it still is too early to assess the impacts of the funded programs on these outcomes, we believe their prospects are good for achieving observable impacts over the next few years, if they are given the time and support they need to learn and adjust to achieve full program effectiveness. It is important to remember that most of these programs started “from scratch” when they received the Tobacco Settlement funding; it takes time for new programs to reach maturity and achieve lasting effects on health outcomes.

Arkansas has been unique among the states in being responsive to the basic intent of the Master Tobacco Settlement by investing its funds in health-related programs with a focus on reducing smoking rates. We encourage the state policy makers to reaffirm this original commitment in the Initiated Act to dedicate the Tobacco Settlement funds to support health-related programming. To do justice to the health-related services, education, and research these programs are now delivering, they must be given the continued support and time they need to fulfill their mission of helping Arkansas to significantly improve the health of its residents. In addition, take the actions needed to ensure that issues identified in this evaluation are addressed to reinforce the effectiveness of Arkansas’ investment in the health of its residents.

WORKING
PAPER

Evaluation of the Arkansas Tobacco Settlement Program

Progress from Program Inception to 2004

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HEALTH

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Summary

The Master Settlement Agreement (MSA), the historic agreement that ended years of legal battles between the states and the major tobacco companies, was signed on November 23, 1998. Under the terms of the MSA, the participating states will receive more than $206 billion in payments from the tobacco companies over the next 25 years. Arkansas has a 0.828 percent share of these payments, which it has been receiving since the agreement was finalized.

Arkansas is unique in the commitment that has been made by both elected officials and the general public to invest its share of the Tobacco Settlement funds in health-related programs. The Arkansas tobacco funds are supporting seven health-related programs. Some are serving short-term health-related needs of Arkansas residents while others are long-term investments in the public health and health research infrastructure. This comprehensive program was established by the Tobacco Settlement Proceeds Act, which was a referendum passed by the voters in the November 2000 election.

The Act also created the Arkansas Tobacco Settlement Commission (ATSC) and gave it the responsibility for monitoring and evaluation of the performance of the funded programs. As part of its evaluation function, the ATSC contracted with the RAND Corporation to serve as an external evaluator. RAND was charged with performing a comprehensive evaluation of the progress of the programs in fulfilling their missions, as well as their effects on smoking and other health-related outcomes. This report is the first biennial report from our evaluation.

The evaluation methods are described in Chapter 1 and Appendix A. The evaluation was designed to address the following four research questions:

- Have the funded programs developed and implemented their programming as specified in the Tobacco Settlement Proceeds Act of 2000?
- What factors are contributing to the programs' implementation successes or challenges?
- How do actual costs for new activities compare to budget; what are sources of any variances?
- What effects do the funded programs have on improving the health of Arkansans?

SUMMARY OF PERFORMANCE THROUGH FISCAL YEAR 2004

Achievement of Short-Term Goals

The Initiated Act stated basic goals to be achieved by the funded programs through the use of the Tobacco Settlement funds. It also defined indicators of performance for each of the funding programs—for program initiation, short-term, and long-term actions.

Based on our evaluation results, we conclude that, with a few exceptions, the programs achieved their initiation goals and their short-term goals. We observed substantial variation in the start-up times for the programs, which are reflected in the quarterly spending trends reported in the chapters for the individual programs. We note that these variations are driven largely by differences in the degree to which programs were building upon existing efforts. Those that were starting entirely new programs (e.g., Arkansas State University within ABI, College of

Public Health) had a longer lag in operational growth during the first year than those that already had program foundations in place.

One of the performance exceptions we identified is the Medicaid Expansion. This program was not able to implement one of its four Medicaid benefit expansions, and it has spent only a small fraction of its Tobacco Settlement appropriations. The failure to implement the AR-Adult program was due to refusal by CMS to approve the benefit expansion, despite the best efforts of the Medicaid program staff. The three expansion programs that were implemented spent much less than planned due to a combination of low enrollments and under-use of covered benefits by enrollees, in part due to inadequate outreach and communication to eligible individuals about the benefits available to them.

The other performance exception is the Minority Health Initiative operated by the Arkansas Minority Health Commission, which met only part of its short-term goal. The Minority Health Initiative met its goal of being initiated within 12 months of available appropriation and funding, but a change in management leadership resulted in slow early progress in implementing its program components. The pace of growth continued to be slow through the following two years, which is reflected in weak trends for screenings and service activities performed by the program as well as under-spending of the Tobacco Settlement funds. In addition, the program did not meet its short-term goal of establishing a list of priority health problems and planned intervention for minority population.

We believe that both the Medicaid Expansion and the Minority Health Initiative are important components of a strategy to address the priority health needs of Arkansans. Therefore, it will be important to strengthen the programs, so they can make effective use of the resources made available by the Tobacco Settlement funding for serving those needs.

Summary of Program Performance

We present here summary assessments of the performance of each of the programs with Tobacco Settlement funding. Recommendations for program improvements are presented at the end of the evaluation chapter for each program (Chapters 3 through 9).

Tobacco Prevention and Cessation Program. The Arkansas Department of Health (ADH) has successfully met all of the planning requirements set out in the Initiated Act. These include starting the program within six months of available appropriation and funding, as well as establishing the local tobacco prevention initiatives (community coalitions). The programs and coalitions funded by the ADH reached full operation in a timely manner, and in general they are progressing on schedule.

Several legislative actions have diverted some of the funds slated for tobacco prevention and cessation to other health concerns, with the result that the ADH program is under the minimum spending levels recommended by the CDC for a comprehensive statewide tobacco control strategy. Reductions in funding for direct tobacco control activities can be expected to lead to weaker impacts on smoking rates. The ADH program could be reinforced by legislation that established a statewide ban on smoking in public establishments or increased the price of tobacco, which have been shown to be effective in other states.

College of Public Health (COPH). The COPH has worked effectively to meet its goals for its educational program, and has met the requirements of the Act. It has done an impressive job in establishing a public health educational institution in the two years since receiving the

tobacco funds. It has become a crucial part of the UAMS system and a valuable resource to the surrounding communities. Strengths include its strong community focus, the emphasis on training the public health workforce, and the diversity of the student body. In addition, COPH is expanding its faculty, continuing to develop the curriculum, and providing opportunities for students in all of their programs.

Delta Area Health Education Center (AHEC). The Delta AHEC has successfully established three locations to serve residents in the seven Delta counties, and program activity continued to increase since it began operation, thus meeting the short-term goal stated in the Act. However, it will take time to build the yet larger resources and program volume required to reach many of the Delta residents. The AHEC's health professional training also has progressed steadily, despite the barriers that have limited its ability thus far to establish a medical residency program. The Delta AHEC is making small improvements in the health of the area population, but a more comprehensive approach will be needed to address a myriad of challenges in the Delta and greatly improve health outcomes for the region's residents.

Arkansas Aging Initiative (AAI). The Arkansas Aging Initiative has done an excellent job in establishing seven centers on aging (COA) and, in most regions, senior health clinics, all of which are contributing to the health and well being of older Arkansans. The COAs have been able to create strong ties to their local communities, which will serve them well both in terms of continued support and for potential collaboration to increase outreach into the community. The Reynolds Center on Aging still is working to get some COAs fully operational. In some regions, the challenge has been to find a local hospital to be a viable partner in establishing a senior health clinic. In others, it has been to tease apart the roles of the COA and the AHEC and to find ways for them to work effectively together.

Minority Health Initiative (MHI). The Arkansas Minority Health Commission (AMHC) was previously formed to identify the health needs of minorities, address disparities in health care, and advocate for policy changes in the provision of health education and care. The Tobacco Settlement Proceeds Act expanded its roles by specifying that the AMHC initiate health screens and interventions. Progress of the MHI to date indicates that the AMHC has struggled with its new screening and treatment focus. The number of minorities screened and treated thus far in the its programs remains low compared to the funds available as a result of the Act. As a result, a substantial portion of the MHI Tobacco Settlement funds was not put to work on needed services, and MHI funds were returned to the state at the end of the first biennium.

Arkansas Biosciences Institute (ABI). The ABI and its member institutions have made substantial progress in establishing a research program that addresses the five research areas specified in the Initiated Act. Results of the research are beginning to be disseminated to the scientific community through the ABI fall symposium, scholarly publications, lectures and seminars, and contacts with the media. In addition, ABI has used the Tobacco Settlement funds to establish several core facilities available to all participating institutions, which have created new research efficiencies in the state. ABI has successfully leveraged the Tobacco Settlement funds to bring in extramural funding at an average ratio of 2.8 extramural dollars for each Tobacco Settlement dollar spent on targeted research programs.

Medicaid Expansion. The Medicaid expansion programs have grown steadily, building on existing staffing and information systems. However, enrollments are much lower than expected and enrollees are not informed of what services are covered by the expansion programs.

As a result, this program is spending a small percentage of the Tobacco Settlement funds allocated for it. There is a need for better education and outreach so the general population can be informed about the available programs. In addition, enrolled populations need to be educated better about their Medicaid benefits. The AR-Adults program remains elusive, with refusal by the federal government to approve it, in part because the federal government's priorities have shifted in the last two years.

PROGRAM EFFECTS ON OUTCOMES

An important part of any evaluation is the step of examining the extent to which the programs being evaluated are having effects on the outcomes of interest. Using the long-term goals defined in the Act for each program, we developed outcome measures in consultation with the programs' staff and the Tobacco Settlement Commission. The programs are still too new and available data from many surveys and other sources are too imprecise to detect an effect this soon after program initiation. When we report there is no evidence of a program effect, that does not mean there are no effects; it means that it is too early to tell. Future analyses with additional data will be able to make finer distinctions between positive effects and no effects.

Overall Effects on Smoking Trends

Changes in overall smoking behavior across the state's population are the collective effects of the various actions taken to affect smoking, including tobacco taxes, the Tobacco Settlement programs, other interventions, and other unidentified factors.

- Given the limited amount of time and the limited amount of survey data, we cannot yet detect a change in the adult smoking rate since implementation of the Tobacco Settlement programs.
- Cigarette sales continued a downward trend that had begun before the recent tax increases and the start of the Tobacco Settlement programs. This trend could mean that smokers are smoking less now, on average, or it could reflect increased transport into Arkansas of cigarettes purchased out of state in response to the tax increases.
- The limited evidence we could develop with available data suggests that smoking rates by youth began to decline in 1999 and continued declining through 2003, with no change in trend as the Tobacco Settlement programs began operation. Our analysis of these rates was hampered by the recent low response rate in the 2003 survey of youth (YRBSS).
- Other sources of data suggest that the Tobacco Settlement programs have begun to have a positive effect on smoking behavior in Arkansas:
  - The percentage of pregnant women who reported they smoked in 2003 was less than expected from baseline trends of smoking prevalence.
  - The percentage of smokers among both young adults (age 18 to 25) and teen mothers (age 11 to 18) declined below the baseline trend of declining rates in 2003.

Program-Specific Effects on Smoking Outcomes

Geographic-specific analyses were performed to attempt to identify more local effects on smoking behaviors that could be attributed to tobacco prevention and cessation activities by ADH and other funded programs.

- *ADsH Tobacco Prevention and Cessation.* ADH activity has been distributed throughout the state, with some areas receiving substantially more services than others. At this point, it is too early to tell whether areas with greater ADH activity are experiencing greater decreases in smoking than areas with less ADH activity.
- *Services to the Delta Region.* Smoking rates in the Delta region had been increasing during the baseline period before the Tobacco Settlement programs began, but have decreased following program initiation. We do not have evidence that allows us to attribute this success to any particular program, so we tentatively conclude that it is due to the combined efforts of several programs with tobacco prevention and cessation activities in that region, which include the Delta AHEC, the Minority Health Initiative, the ADH, and a new Center on Aging.

Program Effects on Non-Smoking Outcomes

Highlights of our findings regarding effects of the Tobacco Settlement programs that have a direct impact on health outcomes other than smoking are as follows:

- *Delta AHEC Teen Pregnancy Programming.* The downward trend in teen pregnancy has accelerated in the Delta since Tobacco Settlement funding began. However, the trend also has accelerated elsewhere in the state, suggesting that the cause may be due to factors other than Delta AHEC programming.
- *Medicaid Benefits for Pregnant Women.* We find strong evidence that the percentage of women who received prenatal care has increased with the expansion of Medicaid benefits for pregnant women. We could find no evidence, however, that this increase of prenatal care translated into reductions of low weight births.
- *Other Medicaid Expanded Benefits.* No clear effects were found for the expansion of Medicaid hospital payments or the ARSeniors program. The former increased payments to hospitals for each Medicaid inpatient stay, but it has not affected the amount of hospitalization used by Medicaid recipients. It is too early to detect effects of ARSeniors on health status of seniors, as measured by avoidable hospitalizations; this analysis will be continued as more data are collected.
- *Arkansas Aging Initiative.* The seven new Centers on Aging (COA) went into operation at differing times between 2001 and 2003, and only four COAs were active in 2002 or earlier. The avoidable hospitalization analysis we performed provides baseline information on rates of these events in the areas served by the COAs, but it is premature to find any effects of their services on reduction in avoidable hospitalizations.

COMMON THEMES AND ISSUES

Although the experiences and lessons from each of the funded programs are unique, reflecting the diverse nature of the programs, some common themes and issues have emerged from this evaluation cycle that apply across the programs. We present these issues here along with recommendations for actions to strengthen the programs in the future.

Collaboration and Coordination Across Programs

Some programs already were working together, and we identified other opportunities for additional collaborative programming. Collaborative activities among the programs would strengthen their ability to serve the goals of the Act, to use the Tobacco Settlement funds efficiently, and to enhance needed health services for Arkansans.

Recommendations. We encourage the programs to pursue opportunities for collaboration as their work continues. Some examples that could be pursued include:

- Delta AHEC, MHI, and COPH working together for training and recruitment of health professionals for the Delta region.
- Partnering of the Delta AHEC and MHI in the delivery of education and other health-related services to residents of the Delta region
- Coordination of the tobacco prevention and cessation program offered by the Delta AHEC and the ADH tobacco programming in the Delta region, to make optimal use of their combined resources.
- Within the ADH program, collaboration between the local community coalitions and other ADH programs to increase their impacts on smoking behaviors in the local areas served, including merchant inspections conducted by the Tobacco Control Board and the media messages of the SOS media campaign.
- Coordination of services provided by the MHI and the minority program that is part of the ADH tobacco prevention and treatment program.
- Collaboration between the COPH and the regional Centers on Aging, with their AHEC partners, to establish training programs in the AHEC regions for health care managers.
- Partnering between the COPH faculty and graduate students and other programs (e.g. Delta AHEC, MHI) to improve health education programming and quality improvement efforts.

Governance Leadership and Strategic Direction

Throughout our process evaluation, we found that the programs tended to focus on the priority of getting their programs operational and starting service delivery. There was substantial variation across programs in the extent to which their governing bodies were engaged in the process or guided priorities and strategy. Now that the startup period is over and the programs are more mature, the governing bodies should play active roles in guiding the future strategic direction for the programs.

The diversity of the programs is reflected in the wide variety of governing bodies they have. Regardless of the nature of a program's governing or advisory body, these boards should be bringing added value to the programs as "arms length" observers and guides. The role of these bodies is especially important for those programs that are bringing together disparate organizations to collaborate on a program's activities. Obvious examples are the ABI Board and the advisory boards of the Centers on Aging.

Recommendation. We offer the following recommendations for program governance:

- The governing boards or advisory boards of the funded programs should work with program management in defining a clear direction for the program, and should perform a constructive oversight function to ensure the program is accountable for quality performance.
- Individuals who can provide expertise on the goals defined for the program by the initiated Act should be included in the membership of the program governing boards or advisory boards. For example, under the MHI, the AMHC now is expected to deliver effective health interventions in minority communities in addition to its original advocacy role, but the composition of the Commission has not been changed to reflect this expanded mission.

Monitoring and Quality Improvement

Several of the programs experienced difficulties in collecting data on the process indicators used in the evaluation. This issue reflects the fact that few of the programs have internal accountability mechanisms for regular monitoring and providing feedback on the program's progress. Where mechanisms were in place, they relied on local program staff who often do not have sufficient training or resources to fully comply. Such a monitoring process, when well implemented, is essential to be able to perform regular quality improvement and to assess how well each program component is meeting its goals. This capability also can help the programs fulfill their external accountability for performance to legislators and other state policy makers.

Recommendations. We offer the following recommendations for actions the programs should take to monitor and improve quality and to assess their effects on health outcomes:

- Drawing upon the basic principles of continuous quality improvement methods, the funded programs should have in place an ongoing quality monitoring process that has the following key elements:
  - a set of valid indicators that represent key performance aspects of the program;
  - the collection of data as an integral part of the program operation, including data on program enrollments, demographic characteristics of enrollees, service encounters, feedback from enrollees through surveys or other data collection, and outcomes;
  - corrective actions to address problems and strengthen service delivery, taken in response to the issues identified in the monitoring process; and
  - regular analysis and reporting of performance data to the program management and oversight board and committees.
- The performance indicators and corrective actions should change over time to bring about ongoing, incremental improvements in the program operation.
- The long-term goals for the programs specified in the Act should be revised periodically to establish more appropriate and measurable goals that address the key effects the programs should be achieving.
- Sufficient resources should be allocated to build capacity at the program and community levels to ensure that they can comply with these recommendations, including investments by programs in staff training as well as technical support from the Tobacco Settlement Commission.

Financial Management

For most programs, our analysis of the spending of the Tobacco Settlement funds was complicated by a diversity of problems, ranging from an inability to extract data from the state finance system to incomplete or inaccurate records maintained in programs' local accounting systems. The notable exception was the ADH Tobacco Prevention and Cessation program, which has a well-structured set of accounts that delineates spending for each of its program components and provides usable information for the program management on a regular basis. We have identified issues in two areas: budgeting for the appropriation process and the program financial management and accounting. Presented here is a summary of issues and recommendations for each area.

The appropriation process and fund allocations. The first appropriations for the Tobacco Settlement programs (for fiscal years 2002 and 2003) allocated the funds to specified budget line items based on budgets developed by the programs and submitted to the state. The appropriations legislation prohibited spending in excess of the appropriated amount for each budget item without the approval of the Legislative Council.

During the initial budgeting process for the programs, several programs had appropriation allocations across expense classifications that did not fully match the operational needs of some of the programs. Issues contributing to this outcome were the newness of the programs, inadequate information on the definitions of the line items in the appropriations, and the short time the programs were given to develop and submit budgets to the state. The problems with the appropriations are observable in the spending adjustments and inconsistencies in reported spending that we found in our spending analysis. We also heard frequent reports by program staff working with the state financial system that they have developed techniques for working around constraints in the appropriations.

The program leaders were reluctant to make substantial changes to the fund allocations in the second biennial appropriations for fear of opening up the entire package to funding changes or reductions. This reluctance reflected their perceptions that continued program funding was at serious risk, as they saw legislators looking for ways to shift the Tobacco Settlement funds away from support of their programs to supporting other financial needs of the state. As a result of this inaction, the spending constraints experienced by the programs in the first two fiscal years were perpetuated in the FY 2004-05 appropriations. These constraints hindered several programs from using their funding effectively, and have led to intense discomfort on the part of program staff regarding the accounting practices they have applied to be able to use the available funds.

Recommendations. To this end, we offer the following recommendations:

- The state should use the upcoming appropriations process to enable the programs to start fresh with budgets that accurately reflect their actual operating expenses by line item. The state should provide the programs with clear definitions of the appropriation line items as well as guidance for the budgeting process, so that programs understand clearly how they can use funds in each line item to support their activities.
- The programs should restructure the budgets they submit to the state for the next appropriations process so that allocations of spending across line items reflects actual program needs and are consistent with the appropriations definitions.

Financial management and accounting. Some of the programs have the needed financial staff in place, but several are lacking in some aspect of the accounting and bookkeeping skills needed for effective financial management. Additional training and support should be provided to the programs, as needed, to strengthen their ability to document their spending accurately and to use this information to guide program management.

Recommendations. We offer the following recommendations for actions to be taken:

- Every program should have in place a *local* automated accounting system that it uses to record expenditures as they occur and to report spending to its governance and management on a monthly basis. This system would provide the detailed financial information needed for program management that is not provided by the larger systems within which many of the programs operate (e.g. the state or UAMS financial systems).
- The personnel who perform the accounting function in each program should have the relevant qualifications, including training in bookkeeping or accounting as well as in the program's accounting system. Programs whose personnel lack these qualifications should train existing personnel as needed or should hire qualified personnel.
- Within the programs' local accounting systems, separate accounts should be set up for each key program component so that the program can budget for and monitor spending by component.
- The management of the programs should monitor program spending on a monthly basis using financial statements and support documentation. Financial statements should be reported to the program governing body at every meeting, and variations from budget should be identified and explained.
- The staff responsible for the program financial function should be given formal training on use of the relevant external accounting system to which their programs report expenditures (e.g., state system, UAMS system).

Monitoring by the Tobacco Settlement Commission

The Tobacco Settlement Commission has an important role in ensuring the effective use of the financial resources that the Tobacco Settlement has provided to Arkansas. The Commission can use the information and recommendations in this report to help guide its future activities, as it continues to oversee the programs' performance and to provide support for programs to correct identified shortcomings. As the programs move forward, it will be important for the Commission to hold them to uniformly high standards of performance and results.

Recommendations. We offer here our recommendations for Commission actions:

- The Commission should modify the content of the regular quarterly reports from the programs to require routine reports on their progress in addressing the issues identified in this evaluation. Issues to be addressed include:
    1. involvement of the programs' governing body (or advisory boards) in guiding program strategy and priorities
    2. specific progress of the programs in achieving the goals and objectives of their strategic plans,

3. actions being undertaken for continuous quality improvement and progress in improving services, and
4. actions being taken for collaboration and coordination among programs to strengthen programming.
5. the specific issues identified in the recommendations at the end of each program's chapter in this report.

- The Commission should work with the state finance office and the funded programs to ensure that the programs are correcting the inadequacies of the accounting and financial management processes that this evaluation has identified.
- To ensure that program spending is being monitored regularly, the Commission should require the programs to submit quarterly financial statements of budgeted versus actual spending. The financial statements should be in sufficient detail to enable the Commission to identify variances from budget, and explanations of variances should be provided. (These reports could be the same as those submitted to the programs' governing boards.)
- The Commission should earmark a modest portion of the Tobacco Settlement funds ($150,000 to 200,000 each year) to establish a mechanism that makes technical support available to the funded programs. This support should be targeted to help the programs correct some of the issues identified in this evaluation. The support could include, for example, support for data collection for performance measures, needs assessments, budgeting, or grant writing, as well as for short-term needs of programs for specific skills or knowledge that they do not have on their staff. As one of the funded programs, the COPH would be one appropriate resource to provide such technical support.
- The Commission should establish expectations for the performance of the governing bodies of the funded programs with respect to providing policy and strategic guidance for their programs, as well as monitoring program performance.
- As the programs mature further, and more longitudinal information becomes available on outcomes, the Commission should ensure that outcome evaluation work continues to document the extent of those effects. Meanwhile, the Commission should interpret early outcome information with caution to ensure that conclusions regarding the programs' effectiveness are grounded on sufficient data.

ARE THE GOALS IN THE ACT THE CORRECT GOALS?

An important role of this evaluation is to step back and look at the larger picture, to review how well the scope of services provided by the seven funded programs responds to the current state health priorities. To examine this question, we drew largely upon data generated by the Tobacco Settlement programs themselves, as they performed needs assessments and developed information on other health care issues in the state. We identify a number of priority health needs for Arkansans, and we assess the extent to which the Tobacco Settlement programs address those priority needs.

Top Health Priorities for Arkansas

We have identified the following issues and health priorities for the state:

- Arkansas has a higher death rate than the rest of the country.
- Heart diseases and cancer are the top two killers in Arkansas, as well as for the country.
- Hypertension is a serious risk factor for heart disease, with disproportionate prevalence in minority populations.
- Obesity, smoking, and physical inactivity are the most important preventable contributors to morbidity and mortality in general, as well as to heart disease, cancer, and stroke.
- Rates of both infant mortality and low birth weight in Arkansas are substantially higher than those for the U.S., and the rates are higher for births to African American women in Arkansas than for white women.
- The elderly population represents a larger percentage of the total population in Arkansas than in the country.
- The most important health problems reported by older adults are arthritis, high blood pressure, and heart trouble.
- The most important health needs reported by older adults were affordable prescription medications, affordable health care, and affordable health insurance.
- Arkansas has shortages of health care practitioners in the rural areas of the state.
- Many rural hospitals have converted to critical access hospitals, taking advantage of special Medicare payment policies to preserve rural hospital capacity.
- There are substantial differences between African Americans and whites in Arkansas for health status and mortality rates.
- African Americans report they are suspicious of the health care system, expressing distrust of physicians, insurers, hospitals, and pharmaceutical companies based on experiences in obtaining health care.
- Many minorities report they have experienced discrimination from health care providers in the form of assumptions about their background and understanding based on language or color.
- Estimated rates of uninsurance in Arkansas are very similar to those for the country.
- Arkansans age 19 to 64 years have the highest rates of lack of insurance coverage.

RECOMMENDATIONS REGARDING PROGRAM FUNDING

The programs supported by the Tobacco Settlement funds provide an effective mix of services and other resources that respond directly to many of Arkansas' priority health issues. In addition, the College of Public Health and the Arkansas Biosciences Institute are building educational and research infrastructure that will make long-term contributions to the state's health needs. The programs, with but two exceptions, have achieved their initiation and short-term goals, and each programs is making valuable contributions to addressing the health priorities for the state. As the programs continue to grow and mature, and as they further leverage the Tobacco Settlement funds to attract other resources, their impacts on health needs also can be expected to increase.

Overall Recommendation Regarding Continued Program Funding. We recommend that the Tobacco Settlement funding continue to be provided to the seven programs that receive these funds. At the same time, the performance expectations for the programs during the next two years should focus on achievement of the outcomes relevant to each program.

In addition to this overall recommendation, we offer the following suggestions regarding possible funding adjustments and related issues for some programs, for consideration by the Commission, Governor, and General Assembly in their policy deliberations.

Minority Health Initiative

This program is uniquely positioned to address directly the health needs and priorities of the minority populations in the state. Because of the importance of its role, the MHI should be given every opportunity to fulfill its mandate under the Act. However, the unspent MHI funds represent services that have not been made available to minority populations with health needs.

> ***Recommendation:*** The Commission should work with the Minority Health Commission to help strengthen its MHI programming, set priorities for actions, and fully apply its funding resources to programming for the health needs of minority populations. If the MHC continues to under-spend its Tobacco Settlement funding through fiscal year 2005, then its funding share should be reduced to the level it is spending and the unused resources should be applied to other programming that addresses the health needs of minorities.

Tobacco Prevention and Cessation Program

The ADH Tobacco Prevention and Cessation Program is funded at levels below the CDC recommendations as a result of legislation that redirected some of its funding to other public health activities. This reduced funding impedes the program's ability to affect smoking behaviors. In addition, its share of the total Tobacco Settlement dollars now is smaller than what the Initiated Act had designated for tobacco prevention and cessation activities. Other key components of a comprehensive tobacco control program that would reinforce the Arkansas initiative are legislation that increases taxes on tobacco products and that bans smoking in public areas. Arkansas has increased tobacco taxes but currently does not have statewide bans on smoking in public places.

> ***Recommendation:*** The funding share for the ADH tobacco prevention and cessation program should be increased to return its funding level for tobacco prevention and cessation activities to levels that comply with the CDC recommendations.

> ***Recommendation:*** The state should move forward with legislation to ban smoking in public places, with a goal to expand the scope of the ban over time, which would reinforce the actions already being taken by the ADH and other organizations to achieve and maintain behavior changes for Arkansans and reduction in smoking rates.

Three general options might be used to bring funding for the ADH Tobacco Prevention and Cessation program up to the minimum levels recommended by the CDC: (1) obtaining additional funding external to the Tobacco Settlement funds, (2) returning the funds originally designated for the ADH program to the program, or (3) shifting funding among the Tobacco Settlement programs. The most constructive of these options is to obtain additional external funding to bolster the total amount spent on tobacco prevention and cessation activities. The other options of returning funds previously taken from the ADH program or shifting funds from

other Tobacco Settlement programs would negatively affect other programs that are serving the state's health needs. In addition, the third option would require changing the funding share provisions stated in the Initiated Act.

Several tobacco prevention and cessation actions recently have begun in the state, and the additional financial resources they are applying will help bring Arkansas closer to compliance with the CDC minimum funding guidelines. One of these is the new coverage by the Arkansas State Medicaid program for smoking cessation drugs and professional consultation services, effective October 1, 2004, at an estimated cost of $3 million annually. The other is the action by the Arkansas State Employees and Public School teachers' plan to add tobacco prevention and cessation services as a covered benefit for its 128,000 enrollees, funded by the Employee Benefits Division.

As the state considers alternatives for increasing financial resources for tobacco programming, it should track existing and planned funding for each of the nine program components for which the CDC recommends minimum funding levels (see Table 3.10). Current funding levels fall short of the CDC recommendations for five of the program components, and ideally, any new external funding should be applied to help strengthen the financial support across the nine components.

Medicaid Expansion

The underspending of the Tobacco Settlement funds for this program has two consequences for the state. The first is the absence of insurance coverage for people in poverty who were intended to be reached by these expanded benefits, with its concomitant effects on health status and outcomes. The second is loss of federal funds that the state obtains through the matching of three dollars of federal Medicaid funding for every state dollar spent on health care services. Some of the funds not spent on the expansion programs indeed are being used through the Rainy Day Fund to cover Medicaid shortfalls. However, the intent of the Initiated Act was to use the funds to provide insurance coverage for individuals not otherwise eligible for Medicaid. We offer some options here to better fulfill that intent.

Recommendation: A portion of the appropriation for the Medicaid expansion program should be budgeted and used to support community outreach on the expanded benefits and education of enrollees on the health care benefits available to them.

Recommendation: Consider applying some of the unspent funding for the Medicaid expansions to establish another Medicaid expansion that would provide coverage for evidence-based, preventive health and treatment services for obesity and inactivity.

Recommendation: Evaluate the feasibility and value of establishing a 20 percent Medicaid bonus payment for physicians providing primary care services to residents of rural health professional shortage areas in the state, again using some of the unspent Medicaid expansion funding.

DISCUSSION

The Arkansas General Assembly, Tobacco Settlement Commission, and people of Arkansas have much to be proud of in the investment made in the seven programs supported by the Tobacco Settlement Funds. These programs in general have made substantial progress in

expanding and strengthening the infrastructure to support the health status and health care needs of Arkansas residents. It still is too early to assess the effects of the funded programs on these outcomes. Yet we believe their prospects are good for achieving observable impacts over the next few years, if they are given the time and support they need to learn and adjust to achieve full program effectiveness.

Arkansas has been unique among the states in being responsive to the basic intent of the Master Tobacco Settlement by investing its funds in health-related programs with a focus on reducing smoking rates. We encourage the state policy makers to reaffirm this original commitment to dedicate the Tobacco Settlement funds to support health-related programming. To do justice to the health-related services, education, and research these programs are now delivering, they must be given the continued support and time they need to fulfill their goals. In addition, actions should be taken to ensure that issues identified in this evaluation are addressed to reinforce the effectiveness of Arkansas' investment and enhance its ability to achieve improvements in the health of its residents.

Chapter 1.
Introduction

The Master Settlement Agreement (MSA), the historic agreement that ended years of legal battles between the states and the major tobacco companies, was signed on November 23, 1998. Under the terms of the MSA, the participating states will receive more than $206 billion in payments from the tobacco companies over the next 25 years. Arkansas has a 0.828 percent share of these payments, which it has been receiving since the agreement was finalized.

The state of Arkansas is unique in the commitment that has been made by both elected officials and the general public to invest its share of the Tobacco Settlement funds in health-related programs. The Arkansas tobacco funds are supporting seven programs that provide diverse programming. Some are serving short-term health-related needs of Arkansas residents while others are long-term investments in the public health and health research infrastructure. This comprehensive program was established by the Tobacco Settlement Proceeds Act, which was a referendum passed by the voters in the November 2000 election.

The Act also created the Arkansas Tobacco Settlement Commission (ATSC) and gave it the responsibility for monitoring and evaluation of the performance of the funded programs. As part of its evaluation function, the ATSC contracted with the RAND Corporation to serve as an external evaluator. RAND was charged with performing a comprehensive evaluation of the progress of the programs in fulfilling their missions, as well as their effects on smoking and other health-related outcomes. This report is the first biennial report from our evaluation.

In this chapter we provide background information about the MSA, the ATSC mandate for monitoring and evaluation, and the methods used in the RAND evaluation. Chapter 2 addresses the history and policy context within which the Tobacco Settlement program was established. Results from our evaluation of the performance of the funded programs are presented in the next seven chapters (a chapter for each program). In Chapters 10 and 11 we present our findings regarding early effects of the programs on smoking and other outcomes. Finally, we synthesize the evaluation findings in Chapter 12, and we offer recommendations for program improvement and future spending of the Tobacco Settlement funds.

THE MASTER SETTLEMENT AGREEMENT

The MSA settled all legal matters alleged by the participating states against the participating tobacco companies, placed conditions on the actions of the tobacco companies, and provided for large payments from those companies to the states and several specific funds. All the states except Florida, Minnesota, Mississippi, and Texas are participants in the MSA, as are the District of Columbia and several U.S. territories.

Key Provisions of the Settlement

The tobacco companies will make three types of payments to the states: up-front payments, annual payments, and the strategic contribution fund. The up-front payments total $12.7 billion, with $2.4 billion paid annually between 1998 and 2003.

The annual payments total $183.2 billion. These payments "ramp up" over time, with payments of $4.5 billion in 2000, $5 billion in 2001, $6.5 billion in each of 2002 and 2003, and

$8 billion annually in 2004 through 2007. Payments in 2008 through 2017 will be $8.1 billion annually, and payments in later years will be $9 billion annually.

Starting in 2008 and continuing through 2017, the tobacco companies will pay $861 million annually into the Strategic Contribution Fund, for a total payment of $8.6 billion. Payments to the fund will be allocated to states based on a formula developed by the Attorneys General. This formula reflects the contribution made by the states to resolution of the state lawsuits against the tobacco companies.

All the payments to the states will be subject to a number of adjustments, reductions, and offsets, so the actual payments the states receive differ from the base amounts defined in the MSA. These adjustments include inflation adjustment, volume adjustment, non-settling states' reduction, miscalculated and disputed claims offset, non-participating manufacturers adjustment, federal legislation offset, and litigation releasing parties offset.

In addition to the state payments, the MSA places other conditions on the tobacco companies, some involving additional payments and others placing constraints on their business practices, in particular with respect to marketing of tobacco products to youth. The following are some highlights of these requirements:

- Funding of a national foundation by the tobacco companies ($250 million over 10 years) to study programs for reduction of teen smoking and substance abuse and prevention of tobacco-related disease.
- Funding of a national public education fund ($1.45 billion between 2000-2003) to promote tobacco control and implement educational programs to counter youth smoking.
- Prohibition of targeting youth in advertising or marketing of tobacco products.
- Ban on advertising of tobacco products outdoors or on transit facilities, and limits on advertisements outside retail establishments.
- Prohibition of distribution and sale of apparel and merchandise with brand-name logos.
- Prohibition or limits on product placement and sponsorships of public events.
- Prohibition on distribution of free samples, except in closed facilities where no underage (<18 years) persons are present.
- Prohibition on gifts without proof of age.
- Prohibition on the tobacco companies from lobbying against proposals intended to limit youth access to or consumption of tobacco products.
- Requirement that the tobacco companies not suppress or misrepresent research about the health outcomes related to tobacco use.

Tobacco Settlement Funds Received by Arkansas

Arkansas receives 0.828 percent of the funds provided by the tobacco companies under the MSA. Arkansas received $121,548,000 through FY2001, including both initial payments and annual payments. The amounts received in subsequent years were $62,180,000 in FY2002 and $60,067,000 in FY2003. The State Finance Office has released a preliminary estimate that Arkansas will receive $51,500,000 in FY2004, although the final amount may be slightly higher. Under the terms of the MSA, fund receipts to Arkansas should remain close to this level through 2007, after which they should begin to increase again.

As Arkansas fund receipts declined, all the funded programs shared in the reduced support. Any impact on the programs was limited in the first few years because the programs were just building their operations and were not yet spending all of the available funds. Now the programs are at full operation and, with a few exceptions, they are using all the funding available to them. They are beginning to feel the constraints of the funding declines.

EVALUATION APPROACH

The ATSC Monitoring and Evaluation Function

The Initiated Act directed the ATSC to conduct monitoring and evaluation of the funded programs, to ensure optimal impact on improving the health of Arkansans and fiscal stewardship of the Tobacco Settlement. The evaluation should assess the programs to justify continued support of the funded programs based upon the state's performance-based budgeting initiative. The Act specified the following provisions for ATSC evaluation:

- Programs are to be administered pursuant to a strategic plan that encompasses a mission statement, defined programs, program goals with measurable objectives, and strategies to be implemented over a specific timeframe.
- Evaluation of each program is to include performance-based measures for accountability that will measure specific health related results.
- All expenditures from the Tobacco Settlement Program Fund and the Program Accounts are be subject to the same fiscal control as are expenditures from State Treasury funds.
- The Chief Fiscal Officer of the State may require additional controls, procedures and reporting requirements that are determined to be necessary to carry out the Act.

RAND Evaluation Methods

The evaluation approach we have designed responds to the intent of the Tobacco Settlement Commission to perform a longitudinal evaluation of the development and ongoing operation of its funding program. We employ an iterative evaluation process through which information is tracked on both the program implementation processes and effects on identified outcomes. This information can be used to inform future funding decisions by the Commission as well as decisions by the funded programs on their goals and operations.

The evaluation was designed to address the following four research questions:

- Have the funded programs developed and implemented their programming as specified in the Tobacco Settlement Proceeds Act of 2000?
- What factors are contributing to the programs' implementation successes or challenges?
- How do actual costs for new activities compare to budget; what are sources of any variances?
- What effects do the funded programs have on improving the health of Arkansans?

The logic model that guides our evaluation design is presented in Figure 1.1. This model identifies a two-tiered structure for the Tobacco Settlement Commission and its funded programs, which is mirrored in the evaluation design. On the left side of Figure 1.1, the

Commission itself is at the program policy level, providing advice to the General Assembly in three major areas: selection of programs to fund, definition of goals for these programs to achieve, and monitoring effects of the funded programs' activities on the program goals. The second program level is the funded programs, which perform activities to establish and carry out their work, monitor their progress toward goals, and assess their effects on outcomes of interest.

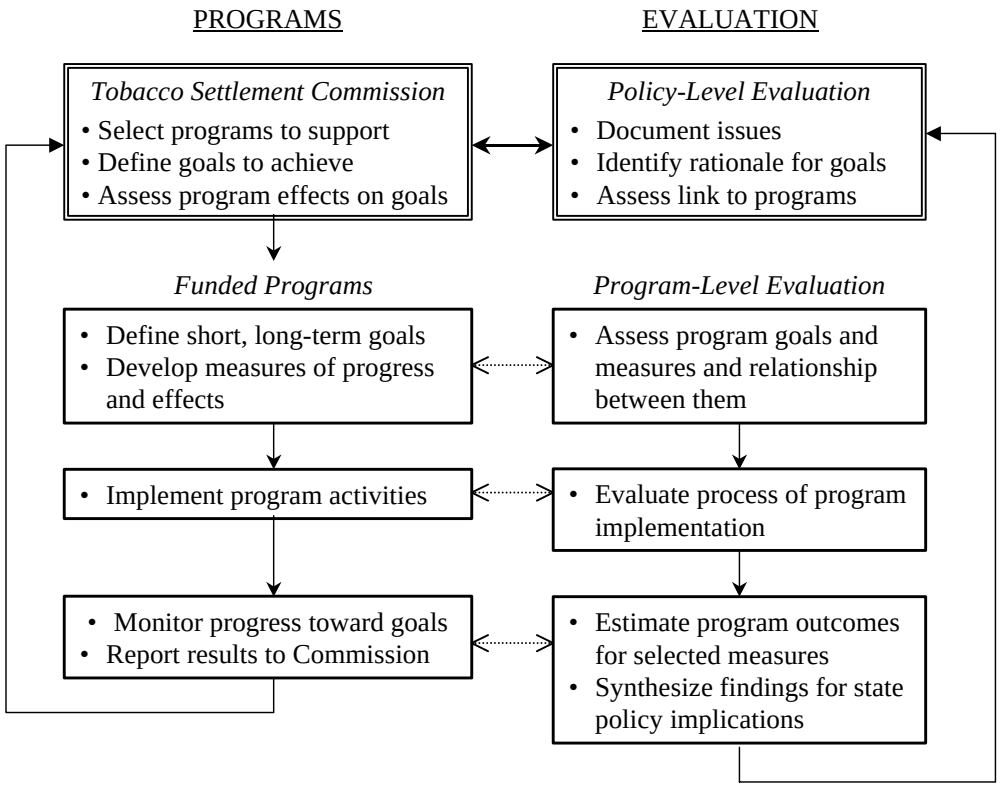

Figure 1.1 Logic Model for Evaluation of the Arkansas Tobacco Settlement Program

The evaluation, shown in the right side of the diagram, also consists of two levels—policy-level and program-level evaluations. Within the program evaluations, we perform a process evaluation to document the implementation processes, including relationships between the programs' goals and actions and the successes and challenges they experienced. We also perform an outcome evaluation to assess the extent to which the program interventions are achieving the intended outcomes for both program activities and the health status of the state population. This approach was taken to ensure that the evaluation of the programs is performed within the correct policy context, and that the results of the program-level evaluation are synthesized to generate usable information for future policy decisions by the Commission and the General Assembly. Further, the program evaluation results were designed to be useful to the individual programs for decisions on future program goals, strategies, and operational modifications. The evaluation components and methods are described further in Appendix A.

Implicit in this logic model is an important design principle that is central to most of the evaluations that RAND Health performs. In our view, the most effective evaluation is one that provides a vehicle for program leaders and participants to gain new knowledge that they can

apply to strengthen the program for which they are responsible. We can learn from both successes and challenges in program operation. This principle is relevant to the Tobacco Settlement Commission, which has been given the responsibility to oversee the Tobacco Settlement program and advise the General Assembly and Governor on future use of this funding. It also is relevant to the individual programs supported by the Tobacco Settlement funding, which are expected to achieve the outcomes defined as priorities by the Initiated Act.

Chapter 2.
History and Policy Context

To effectively assess the performance of the Arkansas Tobacco Settlement program and the work of the funded programs, the program must be considered in the context of the history and issues that contributed to decisions regarding its formation and structure. This is the topic of this chapter. We first describe the process in Arkansas through which the Coalition for Healthy Arkansas Today (CHART) was formed, the proposal for this package of health-related programs was developed and enacted, and funding was appropriated. Then we discuss the activities of the Arkansas Tobacco Settlement Commission as it fulfills its mandate to provide oversight and monitoring of the performance of the funded programs as well as the funding of other community grants.

THE CHART PROCESS IN ARKANSAS

As the state of Arkansas prepared for use of its share of funds from the Master Settlement Agreement, active debate arose among elected officials and other policy leaders in the state. Multiple proposals were offered by a diversity of interests, all in anticipation of the 1999 biennial session of the state General Assembly. Despite this activity, there was little discussion in the 1999 session because the state would not receive the first funding until 2000, and there were concerns about the long-term reliability of funds from the tobacco companies.

To help guide the policy deliberations, the Arkansas Center for Health Improvement (ACHI)[1] performed a study and published a position paper in February 1999. The position paper set forth the following set of principles to guide choices for use of the Tobacco Settlement funds (Thompson, et al., 1999):

1. All funds should be used to improve and optimize the health of Arkansans.
2. Funds should be spent on long-term investments that improve the health of Arkansans .
3. Future tobacco-related illness and health care costs in Arkansas should be minimized through this opportunity.
4. Funds should be invested in solutions that work effectively and efficiently in Arkansas.

These principles were informed by analysis in the ACHI position paper regarding tobacco impacts in Arkansas and health issues for the state population, which should be the targets for programming supported by the Tobacco Settlement funds. ACHI recommended that eight major activities be pursued. There were increasing public education, improving professional education, increasing use of tobacco cessation programs by clinicians, limiting youth access to tobacco, use of school-based intervention programs, restricting tobacco marketing and promotion, advancing epidemiological and behavioral research, and controlling environmental tobacco smoke.

The four principles in the ACHI position paper were accepted by the governor and the leaders of the state Senate and House, which effectively limited the options for use of the Tobacco Settlement funds to health-related programming. Even within the domain of health-

[1] The Arkansas Center for Health Improvement is jointly supported by the University of Arkansas for Medical Sciences and the Arkansas Department of Health.

related issues, however, there were numerous proposals for use of the funds that totaled more than $350 million in annual spending, far in excess of the annual $62 million that Arkansas expected to receive in the early years of the MSA.

To develop consensus on which initiatives should be funded, the ACHI convened meetings of the organizations offering proposals for health spending. Through this negotiation process, which was supported by data analysis performed by ACHI, the parties reached agreement on the seven programs to be funded and distribution of funding shares among them. With a funding proposal established, the Coalition for Healthy Arkansas Today was formed to advance the plan for passage by the state.

The governor convened a special session of the General Assembly in February 2000, with support from many leading legislators, to pass the spending plan proposed by CHART.[2] The Senate unanimously approved the CHART proposal, but the House referred it to its Rules Committee to consider with three alternative spending proposals. None of the proposals passed the House.

When the General Assembly failed to pass the CHART proposal, the governor consulted with the Senate leadership and then announced that he was taking the CHART proposal to the electorate in the November 2000 election as a voter-initiated referendum. The needed signatures were obtained, and in July 2000, the secretary of state validated the signatures and placed the proposal on the ballot. Some members of the General Assembly filed suit in the Arkansas Supreme Court to strike the initiative, but the court denied their petition in a four-to-three vote. Following active campaigning in the short time left until the election, the proposal was approved by a vote of 64 percent of the votes cast, the largest majority of any statewide race that year.

With the enabling legislation put in place by the voters, legislation still was required to authorize the funded agencies to spend the Tobacco Settlement funds. The authorization took the form of appropriations bills, which were taken up by the General Assembly in the spring 2001. After some negotiations with legislators who still disliked the funding mix, the General Assembly passed 12 appropriations bills that were signed by the governor on April 13, 2001. These bills authorized spending of the tobacco funds as specified in the voter referendum.

THE ARKANSAS TOBACCO SETTLEMENT PROCEEDS ACT

The official title of the voter referendum is the Arkansas Tobacco Settlement Proceeds Act of 2000 (which we refer to in this report as the Initiated Act). This Act authorized the creation of seven separate initiatives to be support by Tobacco Settlement funds, established short and long-term goals for the performance of these initiatives, specified the funding shares to support the programs and a structure of funds for management and distribution of proceeds, and established the Arkansas Tobacco Settlement Commission to oversee the overall program.

Overall Goals for the Funded Programs

The Initiated Act defined four basic goals to be achieved through the use of the Tobacco Settlement funds, for each of the four major types of programs funded. These goals are:

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[2] During this session, the General Assembly also considered and passed a proposal to establish the Capitol as a nonsmoking public building.

- ***Tobacco Prevention and Cessation.*** To reduce the initiation of tobacco use and the resulting negative health and economic impact.
- ***Medicaid Expansion.*** To expand access to healthcare through targeted Medicaid expansions thereby improving the health of eligible Arkansans.
- ***Research and Health Education (Arkansas Biosciences Institute)***. To develop new tobacco-related medical and agricultural research initiatives to improve the access to new technologies, improve the health of Arkansans, and stabilize the economic security of Arkansas.
- ***Targeted State Needs Programs.*** To improve the health care systems in Arkansas and the access to health care delivery systems, thereby resolving critical deficiencies that negatively impact the health of the citizens of the state. These programs consist of the College of Public Health (COPH), the Delta Area Health Education Center (AHEC), the Arkansas Aging Initiative (AAI), and the Minority Health Initiative (MHI).

Long-Term Performance Expectations for the Funded Programs

In addition to the overall goals, the Act defined indicators of performance for each of the funding programs—for program initiation, short-term, and long-term actions. We summarize in Table 12.1 (in Chapter 12) the performance of the seven programs on their initiation and short-term indicators. It is premature to draw conclusions regarding the performance of the programs on their long-term performance indicators because, as discussed in Chapter 10, it is too early in the life of the programs to expect to observe effects on many measures of health behaviors or health status.

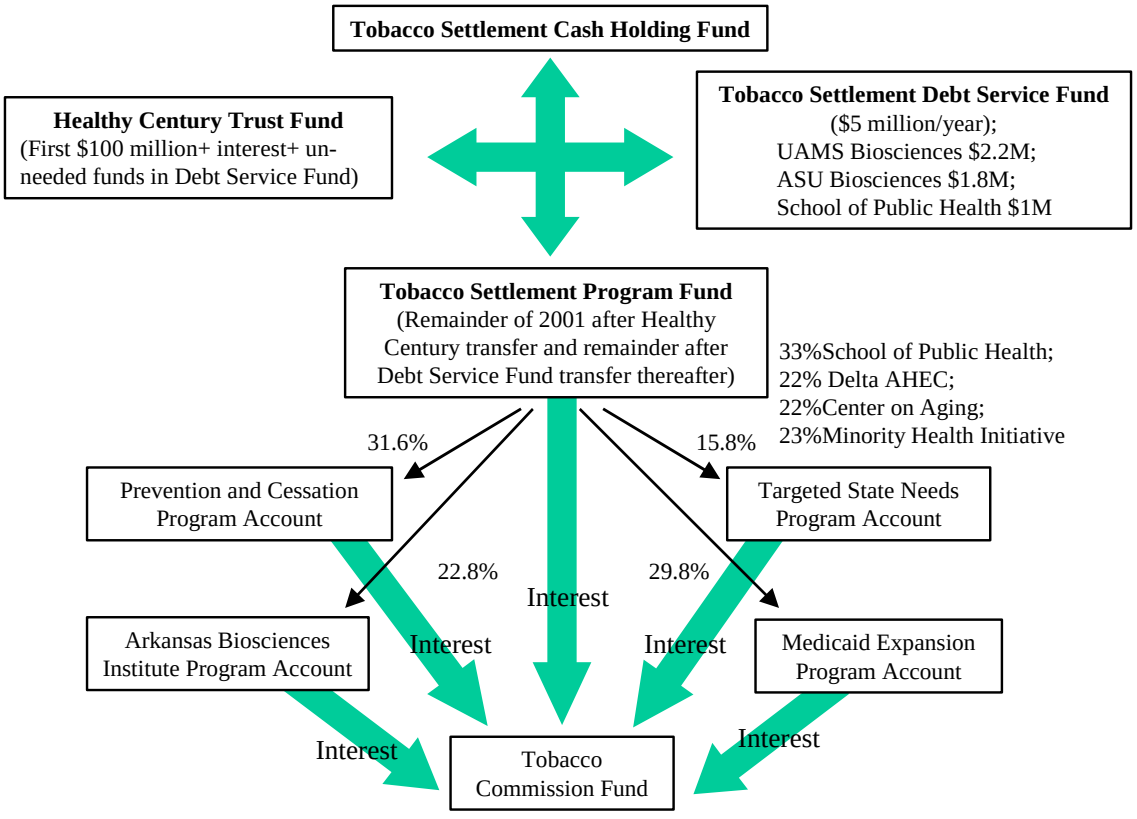
The following are the long-term performance goals established for each funded program:

- *Tobacco prevention and cessation (by the Arkansas Department of Health(ADH))* – Surveys demonstrate a reduction in numbers of Arkansans who smoke and/or use tobacco.
- *College of Public Health* – Elevate the overall ranking of the health status of Arkansas.
- *Delta Area Health Education Center* – Increase the access to a primary care provider in underserved communities.
- *Arkansas Aging Initiative (run by the Reynolds Center on Aging)* – Improve health status and decrease death rates of elderly Arkansans, as well as obtaining federal and philanthropic grant funding.
- *Minority Health Initiative (run by the Arkansas Minority Health Commission)* – Reduce death/disability due to tobacco-related illnesses of Arkansans.
- *Arkansas Biosciences Institute (ABI, a consortium of five state educational institutions)* – The Institute's research results should translate into commercial, alternate technological, and other applications wherever appropriate in order that the research results may be applied to the planning, implementation and evaluation of any health related programs in the State. The Institute is also to obtain federal and philanthropic grant funding.
- *Medicaid expansion* – Demonstrate improved health and reduced long-term health costs of Medicaid eligible persons participating in the expanded programs.

Funding and Fund Flows

The Act authorized the State Board of Finance to receive all disbursements from the MSA Escrow and to oversee the distribution of the funds as specified in the Act. The fund structure and distribution of funding shares by programs are displayed graphically in Figure 2.1. The MSA Disbursements are deposited into the Tobacco Settlement Cash Holding Fund, from which funds are to be distributed to other funds. The other funds consist of the Tobacco Settlement Debt Service Fund, the Arkansas Healthy Century Trust Fund, the Tobacco Settlement Program Fund, the Arkansas Tobacco Settlement Commission Fund, and the Program Accounts.

In calendar year 2001, $100 million of the first MSA funds received were to be deposited in the Arkansas Healthy Century Trust Fund (which has been done). This Trust Fund is intended to serve as a long-term resource to support health-related activities. Interest earned by the Fund may be used to pay expenses related to the responsibilities of the State Board of Finance, and programs and projects related to health care services, health education, and health-related research as designated in legislation adopted by the General Assembly. The remainder of the 2001 MSA disbursements were to be deposited into the Tobacco Settlement Program Fund and distributed to the funded programs pursuant to the shares of the funds defined for them.



SOURCE: Arkansas Bureau of Legislative Research; Fiscal Review Division

Figure 2.1 Flow of Master Settlement Funds Received by Arkansas, As Defined in the Tobacco Settlement Proceeds Act of 2000

For subsequent years, beginning in 2002, all MSA disbursements were to be deposited in the Tobacco Settlement Cash Holding Fund. The first $5,000,000 in funds was to be transferred to the Tobacco Settlement Debt Service Fund, to pay the debt service on bonds for three capital improvement projects (debt service limits shown in Figure 2.1):

- University of Arkansas for Medical Sciences, Biosciences Research Building – up to $25,000,000 in principal amount
- Arkansas State University Biosciences Research Building – up to $20,000,000 in principal amount
- School of Public Health – up to$15,000,000 in principal amount

After paying the Debt Service Fund, the remaining amounts are to be transferred to the Tobacco Settlement Program Fund for distribution to program accounts for the funded programs, according to the following shares:

- 15.8 percent to the Targeted State Needs Program Account
- 22.8 percent to the Arkansas Biosciences Institute Program Account
- 29.8 percent to the Medicaid Expansion Program Account.
- 31.6 percent to repay loans to the Prevention and Cessation Program Account from the Budget Stabilization Trust Fund.

The funds in the Targeted State Needs Program Account are to support four funded programs—the College of Public Health (COPH), the Delta Area Health Education Center (AHEC), the Centers on Aging (COA) of the Arkansas Aging Initiative, and the Minority Health Initiative (MHI). The share of funding going to each of these programs is shown in Figure 2.1.

The State Board of Finance is to invest all moneys held in the Tobacco Settlement Program Fund and the Program Accounts. This is a trust fund administered by the State Board of Finance, and moneys in the Fund are to be used to pay the expenses of the ATSC. All investment earnings on these funds are to be transferred on each July 1 to the ATSC.

If the deposits into the Arkansas Tobacco Settlement Commission Fund exceed the amount necessary for ATSC expenses, then the ATSC is authorized to make grants to non-profit and community based organizations for activities to improve and optimize the health of Arkansans and to minimize future tobacco-related illness and health care costs in Arkansas. Grant awards may be made up to $50,000 per year for each eligible organization, and funds should be invested in solutions that work effectively and efficiently in Arkansas.

Subsequent Emergency Provisions for Medicaid Program Shortfalls

Within a year following the Tobacco Settlement appropriations, Arkansas experienced a budgetary crisis that put the state Medicaid program at serious risk. In a special session in 2002, the General Assembly declared an emergency and made two changes to the Tobacco Settlement Proceeds Act that would provide emergency funding for the Medicaid program to mitigate the threat to its ability to provide adequate care to the state's neediest citizens.

The first change was a modification of the Medicaid Expansion Program Account so that funds in that account also could be used to supplement current general Medicaid revenues, if approved by the Governor and the Chief Fiscal Officer of the State for the Arkansas Medicaid Program. Funds could not be used for this purpose, however, if such usage reduced the funds

made available by the General Assembly for the Meals-on-Wheels program and the senior prescription drug program.

The second change was the funding of an Arkansas Rainy Day Fund by shifting the first year of funds out of the Tobacco Prevention and Cessation Program Account. The purpose of the Rainy Day Fund is to make moneys available to assist the state Medicaid program in maintaining its established levels of service in the event that the current revenue forecast is not collected. As a result of this shift in funds, the ADH was placed in the position of borrowing funds to support its tobacco prevention and cessation activities, which then are repaid in the next cycle of Tobacco Settlement funds (see Chapter 3 for additional details).

APPROPRIATIONS FOR THE FUNDED PROGRAMS

The Arkansas General Assembly has passed two biennial appropriations for the Tobacco Settlement program since its inception in FY2002 (July 2001). As shown in Table 2.1, the first year appropriation was smaller than those for subsequent years, reflecting the lower costs the programs would have during their startup year. The three programs receiving the largest funding are the ADH Tobacco Prevention and Cessation program, the Medicaid Expansion, and the Arkansas Biosciences Institute. In particular, the ADH program was appropriated $29 million in FY 2003, which dropped to $19 million annually in subsequent years. The remaining programs had annual appropriations ranging from $2 million to $3.5 million.

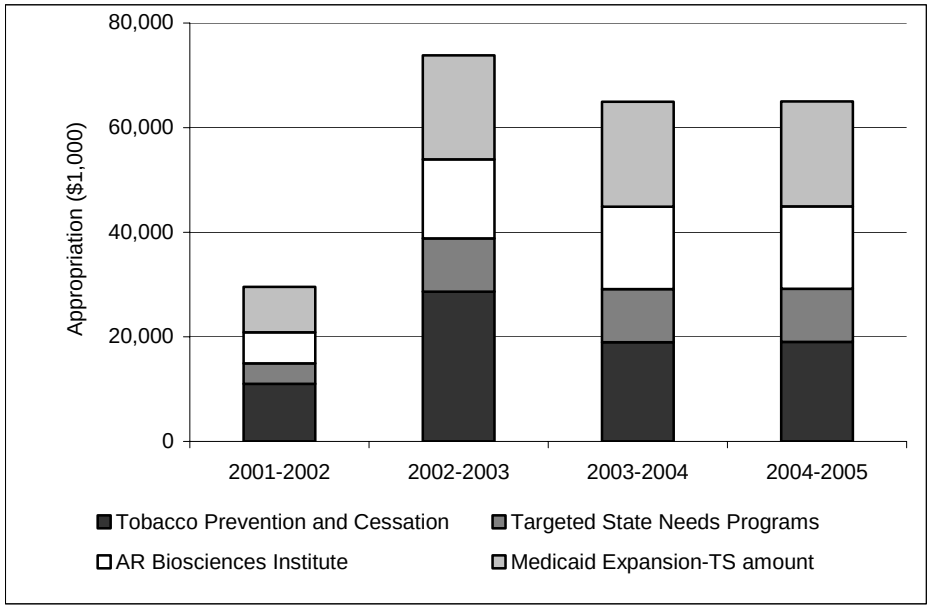
The appropriations for the Medicaid Expansion at the top of Table 2.1 is just the share covered by the Tobacco Settlement funds. This support is leveraged by federal matching at a rate of three dollars for every state dollar for costs of medical services and a one-to-one match for program administration costs. This match is shown in the "Medicaid appropriations breakdown" section of the Table.

Four separate appropriations were enacted for the ABI, one for each participating educational institution. The fifth institution, the Arkansas Children's Hospital Research Program (ACH), is a line item in the appropriation for the University of Arkansas for Medical Sciences (UAMS). The appropriations for each of the ABI are presented at the bottom of Table 2.1.

The distribution of the appropriations across programs is shown graphically in Figure 2.2. The first year appropriation is only 40 percent of the FY 2003 appropriation and approximately 45 percent of the appropriations for FY 2004 and FY 2005. This graph shows clearly the dominant shares of the appropriations for the three largest programs, with the four Targeted State Needs programs together having only 16 percent of the total Tobacco Settlement appropriations.

Table 2.1 Appropriations for the Programs Supported by the Tobacco Settlement Funds

Funded Program	Arkansas Fiscal Year 2001-2002	2002-2003	2003-2004	2004-2005
Tobacco Prevention and Cessation (ADH)	$11,005,529	$28,615,452	$18,978,661	$19,022,305
College of Public Health	1,282,026	3,324,975	3,486,713	3,486,713
Delta AHEC	869,000	2,259,400	2,324,475	2,324,475
Arkansas Aging Initiative	869,000	2,259,400	2,324,476	2,324,475
Minority Health Initiative	908,500	2,362,100	2,012,005	2,016,435
Arkansas Biosciences Institute	5,950,000	15,076,504	15,764,858	15,764,858
Medicaid Expansion (Tobacco Settlement)	8,693,597	19,933,644	20,063,501	20,086,859
Total appropriations	29,577,652	73,831,475	64,954,689	65,026,120
Medicaid Appropriations Breakdown:				
Tobacco Settlement funding	8,693,597	19,933,644	20,063,501	20,086,859
Matched federal funding	24,294,535	57,848,254	57,978,111	58,001,469
Ratio federal match to Tobacco Settlement	2.8	2.9	2.9	2.9
Arkansas Biosciences Institute breakdown:				
AR State University	1,643,880	4,274,088	4,915,202	4,915,202
Children's Hospital Research Program	767,220	1,994,772	1,994,772	1,994,772
Remainder of UA for Medical Sciences	1,784,440	4,246,044	4,161,904	4,161,904
UA Fayetteville	877,230	2,280,800	2,346,490	2,346,490
UA Division of Agriculture	877,230	2,280,800	2,346,490	2,346,490
Total ABI appropriations	5,950,000	15,076,504	15,764,858	15,764,858



Note: Targeted state needs programs consist of the College of Public Health, Delta AHEC, Arkansas Aging Initiative, and Minority Health Initiative

Figure 2.2 Distribution of Annual Tobacco Settlement Appropriations Across Funded Programs

THE TOBACCO SETTLEMENT COMMISSION

The Arkansas Tobacco Settlement Commission is directed by the Initiated Act to conduct monitoring and evaluation of the funded programs "to ensure optimal impact on improving the health of Arkansans and fiscal stewardship of the Tobacco Settlement" and "to justify continued support based upon the state's performance-based budgeting initiative." The Initiated Act established the following Commission membership for the ATSC:

- The Director of the Arkansas Science and Technology Authority or his or her designee;
- The Director of the Department of Education or his or her designee;
- The Director of the Department of Higher Education or his or her designee;
- The Director of the Department of Human Services or his or her designee;
- The Director of the Department of Health or his or her designee;
- healthcare professional to be selected by the Senate President Pro Tempore;
- A healthcare professional to be selected by the Speaker of the House of Representatives;
- A citizen selected by the Governor; and
- A citizen selected by the Attorney General.

The four Commission members who are not on the commission by virtue of being a director of an agency serve four-year terms, which commence on October 1 of each year. These Commission members are limited to serving two consecutive four-year terms.

Overall Operation of the Commission

The work of the ATSC is guided by its strategic plan, which it has established pursuant to requirements of the Initiated Act. We present here the mission, goals, and actions defined in the most recent ATSC strategic plan for the years 2005 through 2009. These strategic plan components reflect the charge given to the ATSC in the Act.

Mission. "The Arkansas Tobacco Settlement Commission mission is to ensure that the Tobacco Settlement funds are used to optimize the health of Arkansans through prevention, education, research, and treatment by providing sound fiscal stewardship of the funds through oversight and assessment of program performance."

Agency Goal and Strategies. The ATSC has established one strategic goal: "To monitor programs funded through the Tobacco Settlement Proceeds Act of 2000 to ensure they promote healthy behaviors, provide health care services, and increase knowledge through education and research." The ATSC strategic plan defines the following strategies to carry out its goal:

Strategy 1: Monitor program performance and results and make required reports.
Strategy 2: Make grants to communities if funding exceeds expenses.

Regular quarterly meetings of the Commission have been held since its inception, and in addition, special meetings have been scheduled when needed to carry out its functions effectively. For example, special meetings were scheduled for the Commission to review and act on Community grants that were awarded in 2003 and 2004. All of these meetings have been held in compliance with the state requirements for public meetings and related notices.

ATSC Monitoring and Evaluation Activities

The Initiated Act directs the ATSC to develop measurable performance indicators to monitor programmatic functions that are state-specific and situation-specific and to support performance-based assessment for governmental accountability. Progress with respect to these performance indicators is to be reported to the Governor and the General Assembly for future appropriation decisions. The commission is to modify these performance indicators as goals and objectives are met and new inputs to programmatic outcomes are identified.

On August 1, 2002, the ATSC submitted to the General Assembly and the Governor a biennial report that reviewed the early progress of the funded programs in the first 12 months after receipt of Tobacco Settlement funding (July 2001–June 2002). Its assessment focused on indicators for program initiation, which are stated in Section 18 of the Act (ATSC, 2002). The ATSC recommendations for future appropriations were based on the following considerations:

- Reported performance compared with initiation indicators only.
- Recognition that most program components within the Act are new programs requiring a period of deployment before short- and long-term objectives can be achieved.
- All programs received partial funding during the first year.

The ATSC assessed the early progress of the seven programs in establishing their activities during the first year of funding, and it offered recommendation regarding future appropriations for the programs. The ATSC recommended continued funding with no conditions for five of the seven programs, based on findings that the programs had been initiated successfully. It recommended "continued funding with concerns" for the ADH Tobacco Prevention and Cessation program and the Minority Health Initiative. For the Tobacco Prevention and Cessation program, the ATSC was concerned that its evaluation process had yet to be publicly disclosed. For the Minority Health Initiative, it was concerned that unexpected leadership change delayed development of a strategic plan and start of the hypertension screening and treatment program.

The Initiated Act authorized the ATSC to hire an independent contractor to perform monitoring and evaluation of the program, including tracking of expenditures made from the program accounts. The product of this evaluation is to be a biennial report to be delivered to the General Assembly and the Governor by August 1 preceding each general session of the General Assembly. The report is to be accompanied by a recommendation from the commission as to the continued funding for each program.

Pursuant to this provision in the Act, the ATSC contracted with the RAND Corporation to serve as the evaluator, effective January 1, 2003. This report is the product of the first evaluation cycle, for submittal to the ATSC, the General Assembly, and the Governor.

Analysis of Tobacco Settlement Commission Spending

The ATSC appropriations passed by the General Assembly, which are summarized in Table 2.2, have been fairly consistent over the past four fiscal years at a little less than $2.5 million annually. The predominant category is the appropriation for Tobacco Settlement community grants, for which the ATSC is authorized to spend up to $1.8 million per year. The other major line item is $500,000 each year for professional fees, which is for the external evaluation contract.

Table 2.2 Appropriations for the Tobacco Settlement Commission

Item Number	Arkansas Fiscal Year 2001-2002	2002-2003	2003-2004	2004-2005
(01) Regular Salaries	$ 65,862	$ 67,575	$ 66,912	$ 68,718
(02) Personal Service Match	17,593	17,896	18,570	18,890
(03) Maintenance, Gen. Operation				
(A) Operating Expense	29,958	30,870	30,870	30,870
(B) Conferences and Travel	500	500	500	500
(C) Professional Fees	500,000	500,000	500,000	500,000
(D) Capital Outlay	12,500	5,000	0	0
(E) Data Processing	0	0	0	0
(04) Tobacco Settlement Grants	1,800,000	1,800,000	1,800,000	1,810,000
Total Amount Appropriated	$2,426,413	$2,431,841	$2,416,852	$2,428,978

We note, of course, that the appropriations only set the upper limit on spending by the ATSC each year. The actual amount that the ATSC can spend is determined by the amount of interest that is earned each year in the Tobacco Settlement Program Fund and the Program Accounts, which is the source of the ATSC funding. These amounts are shown for FY2003 and the first half of FY2004 in the first line of Table 2.3

The administrative office of the ATSC became operational at the end of FY2002 when its executive director was hired. Before that time, the ACHI had provided staff support to the Commission as it began operation and held its first meetings. The new executive director worked out of the ACHI office for several months until the ATSC office was opened in December 2002. Given this slow startup pace, the ATSC did not start spending until late in FY 2002 and its spending was low in FY 2003 , as shown in Table 2.3 and Figure 2.3.

Table 2.3 Actual Spending by the Arkansas Tobacco Settlement Commission, Fiscal Year 2003 and First Half of 2004

Appropriation Line Item	FY 2003	1st Half FY 2004
Interest earned for ATSC spending *	$512,757	$613,000
(01) & (2) Regular Salaries & match	79,112	42,362
(03) General Operation		
(A) Operating Expense	53,062	10,685
(B) Conferences and Travel	1,187	1,459
(C) Professional Fees	213,622	168,086
(D) Capital Outlay	0	0
(E) Data Processing	0	0
(04) Tobacco Settlement Grants	353,678	0
Total spending	700,660	222,592

* The amount of interest earned in the Tobacco Settlement Trust Fund and the Program Accounts, which is the source of funding to support the ATSC. The total FY2004 receipts for the full year was $1,226,000.

Spending started at the beginning of FY 2003, but expenditures were small until the evaluation contract began in the third quarter of FY 2003 (these expenses are in the professional fees category). The large jump in spending in the last quarter of FY 2003 is for the first set of

community grants awarded by the ATSC, as well additional evaluation expenses; the evaluation contract payments became more regular in the first half of FY 2004. A second set of community grants awarded by the ATSC do not show in these data because they were awarded in the second half of FY 2004.

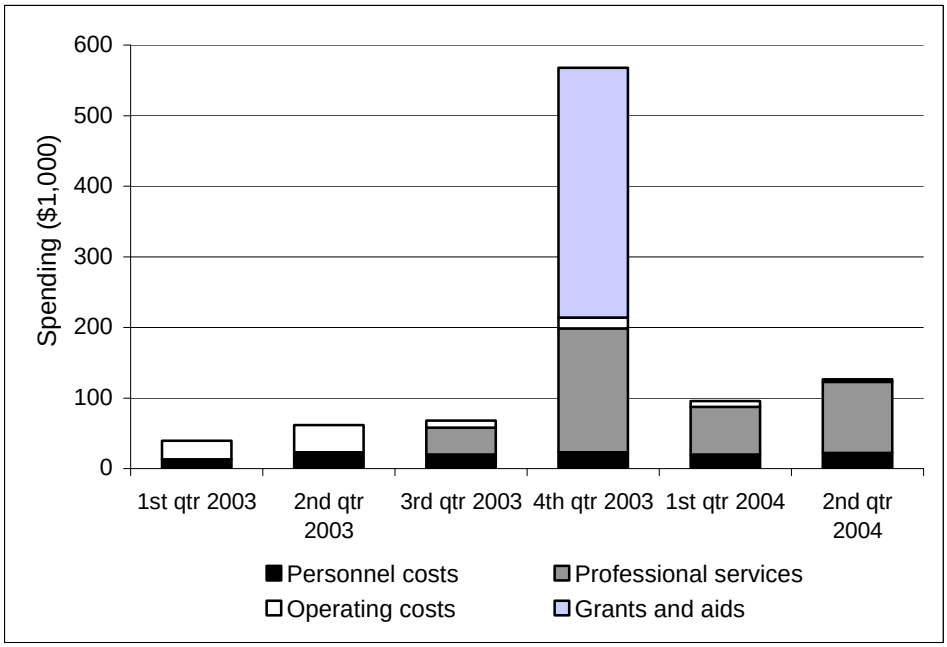


Figure 2.3 Quarterly Spending by the Arkansas Tobacco Settlement Commission

Community Grants

According to the Initiated Act, if the deposits into the Arkansas Tobacco Settlement Commission Fund exceed the amount necessary to pay its expenses, then the ATSC may make grants to support community activities. Funded activities must meet the following criteria:

- Organizations must be nonprofit and community based;
- Proposals should be reviewed using grant based upon the following principles:
  - All funds should be used to improve and optimize the health of Arkansans;
  - Funds should be spent on long-term projects that improve the health of Arkansans;
  - Future tobacco-related illness and health care costs in Arkansas should be minimized through this opportunity; and
  - Funds should be invested in solutions that work effectively and efficiently in Arkansas; and
- Grant awards are to be restricted to amounts up to $ 50,000 per year for each eligible organization.

In fiscal year 2003, the ATSC awarded a total of $353,678 in grants to community organizations for the first time under this provision, and it set an upper limit of $25,000 for each grant. As shown in Table 2.4, a total of 16 grants were awarded, ranging in amounts from $5,000 to $24,998.

Table 2.4 Community Grants Awarded by the ATSC in 2003

Organization Receiving Grant	Grant Amount
Office of Human Concern	$ 24,997
Arkansans for Drug Free Youth	24,479
Healthy Connections Inc	24,148
Kids for Health Inc	24,998
AR for Drug Free Youth of Uni	20,000
Southeast Arkansas Education	24,998
Stuttgart Regional Medical Center	8,240
Ozark Health Inc	24,996
North Arkansas Partnership for	24,998
St. Francis House	24,250
Conway Co. Community Service Inc	5,000
Drug Free Rogers Lowell	23,966
Prescott Nevada Co. Industry	24,998
St. Edward Mercy Foundation	24,930
Cooperative Extension Service	23,710
Cooperative Extension Service	24,970
Total grant funding	353,678

The ATSC established a requirement of quarterly reporting for the community grants, including both provision of information on progress, challenges, and successes in implementing the funded activity and reporting on grant expenditures. During the past year, a small number of the grantees failed to make progress in carrying out their activities, and some proceeded more slowly than planned. The ATSC has been monitoring these issues, and when necessary, it has discontinued grants for programs that were not carrying out the funded activities.

LEGISLATIVE AUDIT OF THE TOBACCO SETTLEMENT PROGRAM

The Arkansas Division of Legislative Audit conducted an audit of the Tobacco Settlement program in response to a request from Representative Jan Judy. Its report presenting the results of its audit was submitted to the Legislative Joint Auditing Committee on September 12, 2002 (Arkansas Division of Legislative Audit, 2002). This audit is an important part of the policy context within which the RAND evaluation is being performed. We summarize here the objectives and key findings from the audit.

Objectives of the Audit. As stated in the Executive Summary of the special report, the audit was conducted with the following objectives:

- Address specific Legislator questions regarding the Tobacco Settlement concerning the College of Public Health, Prevention and Cessation Program, Kids-for-Health Program, and the Arkansas Biosciences Institute;
- Determine if funds and the accounts for the deposit, investment, and management of proceeds from the Tobacco Settlement have been established within the guidelines and requirements established by the Tobacco Settlement Proceeds Act; and
- Ensure that proceeds of the Tobacco Settlement are being spent in accordance with the provisions established in the Tobacco Settlement Proceeds Act.

Recommendations from the Audit. As a result of its review of the Tobacco Settlement program, the Division of Legislative Audit presented four recommendations. We list these recommendations here, along with a brief description of how the RAND evaluation addressed each recommendation:

- The makeup of the Commission should be changed in the next regular session of the General Assembly to replace the Directors of the Department of Health and Department of Human Services, who cannot objectively assess programs within their own jurisdictions.

  From the evaluation: Although the RAND evaluation does not offer a specific recommendation regarding the Commission membership, we do make strong recommendations for strengthening the monitoring and oversight role of the ATSC to hold the funded programs to a high standard of performance. Objectivity and focus on the part of all Commissioners will be required to fulfill this function effectively.

- In addition to the Commission's recommendations, the biennial report delivered to the General Assembly and the Governor should include recommendations from the independent third party evaluator as to the continued funding for each program.

  From the evaluation: This report from the RAND evaluation is being used by the ATSC to guide preparation of its report to the General Assembly and Governor, and both the Executive Summary and full report will also be made available.

- The Commission should work with the external evaluator to further develop program goals with measurable objectives and strategies to be implemented over a specific timeframe.

  From the evaluation: As part of its evaluation, RAND has worked with the ATSC and the funded programs to establish sets of program-specific indicators to monitor the progress of the programs in fulfilling their mandates specified in the Initiated Act. These indicators have been adopted by the Commission for use by the programs in the statewide performance system, and the performance of each program on its indicators is reported in Chapters 3 through 9. We also have developed measures to monitor effects of the funded programs on key outcomes, including changes in smoking behaviors, prenatal care and low birthweight births, effects on health status of the aging populations, and other program-specific measures. Early results of the outcomes analysis are reported in Chapters 10 and 11.

- The Commission should take a more active role in monitoring the use of tobacco settlement funds by incorporating financial information about grant awards and expenditures in future biennial reports.

  From the evaluation: In our evaluation of each individual program, we present recommendations to strengthen the program's activities to better fulfill its mandate. We also have identified several cross-cutting issues that affect many or all of the funded programs, and recommendations for addressing these issues are presented in Chapter 12. One of these issues is inadequacies in financial reporting and monitoring. Also presented in Chapter 12 is a set of recommendations for the ATSC regarding its monitoring and oversight function, to ensure that the programs are addressing the issues identified in the

evaluation and that they are doing regular financial reporting on spending to both their governing bodies and the ATSC.

Chapter 3.
Tobacco Prevention and Cessation Program

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

The Prevention and Cessation Program established by the Initiated Act of 2001 funds the Arkansas Department of Health (ADH) to develop and monitor tobacco prevention and cessation programs in the state. According to the Act, the name of this set of programming is:

"The Tobacco Prevention and Cessation Program" and it "shall …..include:

(1) community prevention programs that reduce youth tobacco use;
(2) local school programs for education and prevention in grades kindergarten through twelve (K-12) that should include school nurses, where appropriate;
(3) enforcement of youth tobacco control laws;
(4) state-wide programs with youth involvement to increase local coalition activities;
(5) tobacco cessation programs;
(6) tobacco-related disease prevention programs;
(7) a comprehensive public awareness and health promotion campaign;
(8) grants and contracts funded pursuant to this chapter for monitoring and evaluation, as well as data gathering; and
(9) other programs as deemed necessary by the Board."

The first eight components listed above correspond directly to the best practice guidelines for comprehensive tobacco control programs of the Centers for Disease Control (CDC) (1999). The ADH's Tobacco Prevention and Education Program (TPEP) is responsible for implementing the activities listed above, and the Act specifies that it should start implementation within six months of receiving funding. In addition to these activities, the Act instructs ADH to establish a Minority Initiative and spend 15 percent of the funds to support this initiative. It also specified that the ADH was to form a Tobacco Prevention and Cessation Advisory Committee to advise the Arkansas Board of Health in carrying out the provisions of the Act.

PROGRAM DIRECTION AND OPERATION

According to its strategic plan, the focus or goals of the TPEP is to: (1) prevent tobacco initiation among youth; (2) promote quitting among adults and youth; (3) eliminating exposure to second-hand smoke; (4) identify and eliminate disparities among special populations. To achieve these goals, the ADH has implemented the following programs that encompass the types of programs specified in the Act and provide the mix of programming specified in the CDC (1999) best practice guidelines for comprehensive tobacco control:

Community prevention programs that reduce youth tobacco use – *25-35 community coalitions with diverse partners since July 2002*

Local school education & prevention programs in K-12 – public health nurses provide assistance to schools in implementing CDC's guidelines; 20 educational cooperatives and/or consortia of schools districts establish and strengthen infrastructure for tobacco prevention

Enforcement of youth tobacco control laws – Arkansas Tobacco Control Board conducts compliance checks, conducts merchant education, and has a toll free number to report violators (1877-ID-TEENS)

State-wide programs with youth involvement to increase local coalition activities – Coalition for Tobacco Free Arkansas (CTFA); Arkansans for Drug Free Youth (ADFY)

Tobacco cessation programs – free Quitline (1-866-NOW-QUIT) operated by the Mayo Clinic; AR Foundation for Medical Care (AFMC) delivers science-based cessation counseling and pharmaceutical interventions; 11 Innovative Tobacco Prevention Projects (until 6/30/03)

Tobacco related disease prevention programs – support the Arkansas Cancer Coalition to conduct a statewide cancer conference to promote the AR Cancer Plan and fund five innovative projects for lung and oral cancers; conduct a statewide baseline assessment of asthma in Arkansas.

Public awareness and health promotion campaign – Hired Cranford, Johnson, Robinson, Woods to address smoking and second-hand smoke through print, radio, TV media, and by sponsoring local events around the state

Minority initiatives – UA at Pine Bluff's Masters of Science in Addiction program; initiative for Hispanic smoking by the League of United Latin American Citizens (until 6/30/03); prevention activities targeted at African-American adults and youth through the network of providers of the Arkansas Medical, Dental, and Pharmaceutical Association (until 6/30/03); community grant program

Monitoring and evaluation – *hired Gallup Organization to evaluate the community coalitions; facilitated local evaluations by participating organizations*

Programming Structure and Approach

Three themes are noted about how the ADH implemented the Tobacco Prevention and Cessation program. First, the Tobacco Settlement funds have provided the ADH with resources both to enhance activities they already had in motion and to fund entirely new activities. Second, as can be seen by the range of programming, the ADH has placed an emphasis on community involvement. Third, the ADH has made extensive use of grants and contract mechanisms to carry out many of these program activities, not only for the community-level activities but also for statewide programs.

We describe here some highlights of the key programs that are part of the Tobacco Prevention and Cessation program, and we describe the startup activities of the various programs. The evaluation section later in the chapter addresses the full set of programs funded by the ADH.

The ADH awarded grants to 25-35 community coalitions (the number funded has varied) to carry out prevention and cessation activities, starting in July 2002. These coalitions are tasked with raising awareness about tobacco and attempting to support local policies designed to reduce the impact of tobacco use (e.g., bans on smoking in public places). The ADH required the coalitions to adopt a similar constellation of goals that are consistent with the CDC guidelines, and the grantees are required to participate in the Gallup evaluation process.

It is estimated that 75 percent of tobacco users started before adulthood (CDC, 1989), so tobacco-prevention activities, as part of a comprehensive tobacco control strategy, are most effective when focused on school-age children and adolescents. To support the CDC best practice guidelines in the schools, the ADH made a total of 20 grants to educational cooperatives, starting in July 2003. The grants require that the schools implement a comprehensive tobacco policy, teach research-based tobacco prevention curriculum, provide teacher/staff training, establish a youth advocacy group, and conduct continuous evaluation of program activities. These grantees also are required to participate in the Gallup evaluation. The public health nurses employed by the ADH to provide technical assistance to the education cooperatives in implementing the CDC guidelines have been working with them actively.

As specified by the Act, 15 percent of the Tobacco Settlement funding was dedicated to supporting activities in minority communities across the state. This funding was used to fund four separate programs, two of which are continuing to receive funding from the ADH.

The ADH hired an advertising agency to implement an anti-tobacco media campaign called Stamp Out Smoking (SOS). The agency also is tasked to evaluate the impact of the awareness campaign.

In addition to tobacco related programming, a significant portion of the funds designated by the Tobacco Settlement Proceeds Act for ADH's tobacco control efforts have been allocated to address other public health issues. These include the following:

- Act 1750 of 2001 established The Arkansas Trails for Life Grant Program (initially called Great Strides), which began allocating $300,000 a year to build public access walking trails designed to stimulate greater physical activity among Arkansans. Administered jointly by the ADH and Department of Parks and Tourism, 19 grants were awarded for construction of an estimated 25 miles of trails, beginning in summer 2004.
- Starting in FY 2002, $500,000 in Tobacco Settlement funds is being transferred each year to the Medicaid federal match of the Breastcare program created by the Breast Cancer Act of 1997, which provides free treatment for low-income Arkansan women who have breast cancer. The number of women served by this program has grown from 23 women through 2001 to 360 women served during July through December 2003.
- ADH Tobacco Settlement funds ranging from $10,000-50,000 per year go to the Governor's Council on Fitness to address physical fitness in Arkansas.
- Act 1220, passed in 2003, created an Arkansas Child Health Advisory Committee to make recommendations to the State Board of Education and the State Board of Health regarding nutrition and physical activity policy to address childhood obesity, and this Act allocates up to 5 percent of the ADH Tobacco Settlement funds to support related programming by the ADH.

Startup Activities by Program Components

Community Coalitions. The ADH experienced several challenges in starting the Community Coalition grant program, as it put a process in place to ensure that the coalition activities were properly monitored and documented. The ADH hired the Gallup Organization to provide evaluation services for the community coalitions. Gallup is using an evaluation system first developed by Francisco, Paine, & Fawcett (1993) to track all the different actions the

coalitions take as well as any changes they effect in their communities. The Gallup Organization has provided several trainings and technical assistance for the coalitions to help them use this monitoring system.

Although this monitoring system has been in place from the start, the coalitions have not been using it uniformly. Coalitions have had difficulty understanding how to use the system, and some coalitions had not been providing ADH with their monitoring system data in a timely fashion. These initial delays can be expected in the start-up of any large-scale program. Reporting delays have been resolved in most cases, and the coalitions are improving in how they use the Gallup monitoring system.

Since January 2002, ADH has been developing a web-based system that would allow the coalitions to provide their monitoring system data directly to the ADH and report on their goals and objectives via the Internet. This system will be functional by July 2004.

School Cooperatives. There initially was not a system for tracking the extent to which school were complying with the CDC guidelines for school tobacco programming, or for tracking the activities of the public health nurses operating in the schools. ADH worked with RAND evaluation staff to create this reporting system, which became functional in July 2003.

Enforcement of Prohibition of Tobacco Sales to Under-18 Youth. The Arkansas Tobacco Control Board (ATCB) was contracted by ADH to conduct merchant compliance checks in tobacco outlets throughout the state. The ATCB initially was limited in the number of checks it could perform because it was under-staffed, but once it got to full staffing levels, it began performing the number of checks specified in its ADH contract (8,000 checks in FY03). In contrast to Synar, the other compliance mechanism in the state, the ATCB places a greater emphasis on checking stores that have either been non-compliant in the past or that have a complaint made against them for selling to minors. (The ATCB is required by law to re-check an offending outlet within 90 days of the offense). In March 2002, the ATCB established a toll free number to report violators (1877-ID-TEENS) and checks all of the complaints it receives.

Tobacco Cessation Programs. For one of its two statewide tobacco cessation programs, the ADH funded the Arkansas Foundation for Medical Care (AFMC) to create the Arkansas Smoking Cessation Network (ASCN), a group of 15 Community Health Centers and rural hospitals throughout the state to offer intensive smoking cessation programs. These facilities serve a large number of participants who are low socioeconomic status, uninsured or Medicaid insured, transient, and often have other health problems in addition to tobacco use. ASCN received funding in November 2002. By February 2003, tobacco interventionists were hired by participating sites and were given specialized training in the delivery of evidence-based intensive tobacco cessation services. Treatment services began in March 2003. Each site is staffed with a tobacco specialist who provides a six-week program using group or individual format. Nicotine replacement therapy is also available for participants.

The other statewide cessation program is the Stamp Out Smoking (SOS) Quitline, operated by the Mayo Clinic. The toll-free Quitline (1-866-NOW-QUIT) began operating on January 13 2003. The line is open to all Arkansas residents between 7:00 a.m. and 7:00 p.m. on Mondays through Fridays and 10:00 a.m. to 4:00 p.m. on Saturdays. Depending on the callers' readiness to quit, Mayo offers two types of services: a brief intervention and a full counseling protocol. The brief intervention is a one-time discussion that includes a tobacco assessment, referrals to local cessation resources, and the mailing of educational materials. For the full counseling

protocol, the components of the brief intervention are performed during the first call along with development of an individualized treatment plan. In addition, three to six follow-up calls are made by the Mayo staff to continue to encourage individuals to quit, and a four-week supply of nicotine patches is provided for those who have Medicaid (other callers are encouraged to obtain nicotine replacement medication from their doctors). The Mayo treatment services are based on well-established clinical models for treating nicotine addiction, and their counselors all hold degrees in psychology, counseling or social services. Mayo also fields requests for information from smokers who are not ready to begin the quitting process and from professionals interested in learning more about quitting services. A media campaign was developed to publicize the availability of the Quitline.

The Innovative Programs, which focused on cessation interventions, were funded for one year (August 2002 through July 2003). The ADH funded 11 community groups, coalitions, universities, and hospitals to implement a wide range of activities in communities across Arkansas. According to the final reports provided to the ADH at the conclusion of the program, most programs focused on delivering a variety of cessation programs, and their target audiences varied depending on local needs (e.g., pregnant women, seniors). Other programs also supported tobacco cessation by educating medical professionals, training youth to become involved in tobacco prevention education, or developing an anti-tobacco media campaign. The 11 projects set goals for themselves as the programs were designed, and the programs met 60 percent of the total number of individual goals.

Minority Programs. Part of the 15 percent of the ADH funding designated for the Minorities Programs has created an addiction studies program at the University of Arkansas Pine Bluff (UAPB) campus, which has traditionally been used by African-American students. The remaining funding was used initially to support two long-standing Latino (League of United Latin American Citizens or LULAC) and African-American (Arkansas Medical, Dental, and Pharmaceutical Association or AMDPA) associations in the state. As these grants ended, the funds were moved to creating a community grant program specifically focusing on minority applicants.

Media campaign. The contract for the media campaign was awarded to Cranford Johnson Robinson Woods (CJRW), a marketing and communication firm from Little Rock, AR. CJRW conducted 18 focus groups with the target audiences, including a range of geographical areas and ethnicities and ages, to test potential advertisements to use in Arkansas. Advertisements that showed the factual dangers of smoking and second hand smoke were found to be the most effective, and this was the focus of the campaign called Stamp Out Smoking (SOS). Advertisements that conveyed the message of industry manipulation, a common strategy among anti-tobacco media campaigns, did not rate highly in the CJRW tests.

The ADH contractor started the SOS media campaign in February 2002. The campaign includes multiple communications channels, including paid TV, radio, print advertisements, sponsorships, and community events. Examples of the latter include school kits for coaches, science and health teachers in select schools across the state; an anti-smoking coloring contest for elementary students; an anti-smoking essay contest for high school students; educational kits for select library summer reading programs; and speakers bureau kits to Toastmasters organizations.

Monitoring and Evaluation of the Tobacco Prevention and Cessation Activities

Evaluation of all of the elements of the comprehensive tobacco strategy is critical to assess effectiveness and itself is one of the CDC best practice guidelines (CDC, 1999). Monitoring of the implementation process is important not only to assess the degree to which ADH is succeeding in implementing the intended strategies, but also to provide timely information to guide ongoing program improvement activities. In addition, it is critically important to evaluate the effects of the program on the intended outcomes—in this case smoking rates.

The ADH has established an extensive evaluation structure and process. First, ADH hired the Gallup Organization to conduct an outside evaluation of all their tobacco settlement activities. As discussed above, Gallup developed a system to monitor the activities of the community coalitions and the community changes they generate. Gallup has provided ADH with two report cards that describe the activities of the coalitions compared to the CDC guidelines and document Arkansas tobacco use trends compared to California and the average rate in the United States.

ADH has also instituted its own direct oversight mechanism for the community coalitions. It prepares a "Building/Expanding Infrastructure Program Assessment Report" that is based on interviews with coalition staff and reviews of the coalitions' work plans. The ADH staff rate the coalitions according to specific criteria based on the set of goals from which all the coalitions had to choose when they applied for funding plus some criteria added later.

The ADH requires regular reporting from all entities to which it has awarded grants and contracts. Contractors such as the Arkansas Tobacco Control Board, The Mayo Clinic, the Arkansas Foundation for Medical Care, the Arkansas Cancer Coalition, Cranford Johnson Robinson Woods, and Gallup all provide ADH with quarterly reports of activities and progress toward their objectives. Minority grantees such LULAC, AMDPA, the community grant program, and the Addiction Studies program also regularly report to ADH. The community grant program and the Addiction Studies program contracted their own external evaluations, and they provide those reports to ADH. The statewide grantees also provide quarterly reports to ADH.

Finally, the ADH has worked with RAND to develop evaluation data collection structures tailored to local programming. RAND is using the data from these reporting systems for our process evaluation. A system was developed to track the activities of the public health nurses operating in the educational cooperatives, and another system was developed to assess the degree to which the cooperatives were complying with the CDC best practice guidelines for schools. Implementation of these systems has been moderately successful. A minority of nurses and educational cooperatives have either not completed the required forms or have provided only minimal information. Training and technical assistance on how to complete these forms is ongoing.

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Ten indicators were selected to represent the overall progress of the ADH Tobacco Prevention and Cessation program. These indicators are used to track progress on fulfilling the mandates in the Act for the program to (1) develop and monitor the eight components of the Tobacco Prevention and Cessation Program delineated in the Act, and (2) establish a Minority Initiative. The program components for which indicators were established are the community

coalitions to reduce youth tobacco use, local school education programs, enforcement of youth tobacco control laws, tobacco cessation programs, tobacco-related prevention programs, and public promotion and health awareness campaign, and minorities program.

Community prevention programs that reduce youth tobacco use

Indicator: Number of community-level community changes initiated, especially newly enacted second hand smoke policies

The Gallup evaluation of the community coalitions is tracking the actions the coalitions take as well as any changes they bring about in their communities. To date, the coalitions have been extremely active. According to the Gallup evaluation, the coalitions have obtained good media coverage for their activities and are providing a great deal of services in their respective communities, although both declined somewhat in the fifth quarter.

The key indicator for this aspect of the tobacco control strategy is the number of permanent effects the ADH coalitions have had in their communities. To date, the coalitions efforts have led more than 17 establishments becoming smoke-free, including several restaurants and government offices. As shown in Table 3.1, most of these community changes occurred during the six-month period of January through June 2003.

Another community change that went into effect on March 11, 2004 (i.e., after the period of consideration for this report) was the passing of a smoking ban in public places by the city of Fayetteville, as a result of the work done during 2003 by the Northwest Arkansas Tobacco-Free coalition. It is expected that several other cities will be voting to become smoke free in the coming year due to the efforts of local coalitions.

Table 3.1 Community Changes for Tobacco Prevention

Six month Time Period	Number of Community Changes *
Jan-Jun 2002	na
Jul-Dec 2002	2
Jan-Jun 2003	15
Jul-Dec 2003	3

Source: Reports from participating educational cooperatives

* Community changes are new or modified programs, policies, or practices in the community facilitated by the initiative that reduce risk factors for tobacco use and subsequent tobacco-related illness and death (e.g., a “no smoking” policy).

Local school education and prevention programs in K-12 that includes school nurses when appropriate

Indicator: Percentage of CDC recommended approaches put in place in each participating educational co-operative.

Successful prevention education programs focus on helping youth to identify reasons not to use tobacco, to understand how tobacco use could affect them in their everyday lives and social relationships, to understand the benefits of not using, to believe that they can successfully

resist pro-tobacco pressure, and to understand that most people do not use tobacco. Based on published evidence on school programs for tobacco prevention education, the CDC developed the following set of best practice guidelines specifically designed for schools (CDC, 1994):

1. Develop and enforce a school policy on tobacco use.
2. Provide instruction about the short- and long-term negative physiologic and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills.
3. Provide tobacco-use prevention education in kindergarten through 12th grade; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school.
4. Provide program-specific training for teachers.
5. Involve parents or families in support of school-based programs to prevent tobacco use.
6. Support cessation efforts among students and all school staff who use tobacco.
7. Assess the tobacco-use prevention program at regular intervals.

To develop documentation on the extent to which the school programs funded by the ADH were adhering to the CDC guidelines, RAND and the ADH worked together to develop reporting forms and a monitoring system that tracks adherence in all educational co-ops across Arkansas. The public health nurses and school personnel completed these evaluation forms for July through December 2003. Data on compliance with the CDC guidelines are shown in Table 3.2.

Some of the educational cooperatives did not report on their compliance with the CDC guidelines. For those that did report, the compliance percentages vary across the guidelines. Only one cooperative was in full compliance with all CDC guidelines, and two others were in compliance with all but one guideline. All cooperatives have a school policy, although enforcement was less emphasized. The most common mechanism to deliver the anti-smoking policy to students is the student handbook. Most cooperatives have either implemented or purchased evidence-based anti-tobacco curriculum, which address the necessary knowledge, attitudes, and skills needed to prevent tobacco use as recommended by the CDC. Most cooperatives have curriculum in at least some of the grades from K-12. In addition, most cooperatives have provided training to the teachers responsible for implementing the prevention curriculum and have involved community stakeholders and support cessation.

In general, partial implementation reflects activities that have been started but not yet finished, for example, no-smoking policies that have been drafted, but not yet adopted. Other examples include school districts that have received evidence-based curriculum but have not yet implemented them or are not implementing them in all grades K-12. Some view the school grant as primarily focusing on education, and not enforcement of a no-smoking policy.

Table 3.2 Implementation of the CDC-Recommended Approaches for Tobacco Prevention Education by ADH Educational Cooperatives, As Of December 2003

	Recommended CDC Approaches Implemented by Programs						
Educational Co-ops	1	2	3	4	5	6	7
AR River Ed	Full	Full	Full	Full	Full	Partial	Full
Arch Ford	Partial	Full	Full	?	Full	Full	Full
Crowley's Ridege	Full	?	Full	Partial	Full	Partial	Full
Dawson	Partial	Partial	Partial	Full	Full	Full	Full
DeQueen-Mena	Partial	Full	Partial	Partial	Full	Partial	Full
Great Rivers	?	?	?	?	?	?	Full
NAESC	Full	Full	Partial	Full	Partial	Partial	Full
Northeast AR	Full	Full	Partial	Full	None	None	Full
NW AR	Partial	Full	Partial	Full	Partial	Partial	Full
OUR Harrison	Partial	Full	Partial	Full	Full	Partial	Full
South Central	Full	Full	Full	Full	Full	Full	Full
Southeast AR	Partial	Full	Partial	Full	Partial	Full	Full
SW AR	Partial	Full	?	?	Full	Full	Full
Western AR Ed	Full	?	Partial	Full	?	?	Full
Wilbur Mills	Partial	?	?	?	?	Full	Full
Number of co-ops with missing information	1	4	3	4	3	2	0
Percentage of co-ops in full compliance with guidelines*	43%	91%	33%	82%	67%	46%	100%

? Indicates there was insufficient information to assess implementation status.
*Of those co-ops that have reported information

Enforcement of youth tobacco control laws

Indicator: Number of stores checked by the Tobacco Control Board for compliance with rules to not sell tobacco products to minors

The enforcement arm of the ADH tobacco prevention and cessation strategy is the ATCB checks of stores regarding sales of tobacco products to youth. Enforcement of under-18 laws to restrict purchase of tobacco products by youth is an important part of a comprehensive strategy effort to reduce young people's use of tobacco. To be most effective, however, minors' access restrictions need to be combined with merchant education and a comprehensive tobacco control program that reduces the availability of social sources and limits the appeal of tobacco products.

The number of checks performed by the ATCB are reported in Table 3.3. The ATCB significantly increased the number of store checks in the latter half of 2003, when its staffing increased from two agents to eight agents. The average violation rates for all of 2003 are below 20 percent, which is the benchmark used by Synar. Because the goal of these checks is to target stores suspected to be in violation, we would expect to see higher violation rates than those obtained in the Synar data.

Table 3.3 Compliance Checks of Stores by the Arkansas Tobacco Control Board

Six-month Time Period	Number of checks by the ATCB	Percentage Found in Violation
Jul-Dec 2002	1,138	24.1%
Jan-Jun 2003	945	17.8
Jul-Dec 2003	4,147	16.5

While the average violation rates from all types of tobacco outlets are low, the violation rates from vending machines remains high. From July 2003 to March 2004, about half of the vending machines checked led to a violation. The next highest outlet type, discount stores, had only about a 19% violation rate. The rates are somewhat an overestimate of the overall violation rate because of its emphasis on checking (and re-checking) non-compliant outlets.

Merchant education is an important part of the effectiveness of enforcement practices. However, the ATCB reports that it does not have the resources to conduct a comprehensive merchant education program for all merchants in the state. Therefore, the ATCB only provides education on an informal basis either to those merchants who specifically request it (a small number) or to those merchants who receive a citation for a violation.

Tobacco cessation programs

Indicator: Number of smokers enrolled in the Mayo Clinic Tobacco Cessation Service program

Indicator: Number of smokers enrolled in the AR Foundation for Medical Care (AFMC) program

The CDC Best Practice Guidelines (1999) stress cessation as a critical component of their recommended tobacco control strategy. While preventive interventions are most important to keep youth from ever using tobacco products, cessation services are needed to address the health needs of current tobacco users. These types of services greatly reduce the risk of premature death due to tobacco use (US DHHS, 1990).

Table 3.4 shows the 3 and 6 month quit rate by each semi-annual period for both the Mayo and AFMC programs. According to Table 3.4, the Mayo quitline has been yielding good cessation results. These results are higher than what has been previously been reported in the literature for proactive quitlines. The AFMC program has also yielded high quit rates. The overall 20 percent quit rate is excellent given the typically low quit rates for even the best smoking cessation programs.

Table 3.4 Enrollments and Quit Rates for ADH Tobacco Cessation Programs

Time Periods	Mayo Clinic Quitline			AFMC Program	
	Enrolled	Total quit after three months*	Total quit after six months*	Enrolled	Total quit after three months*
Jan-Jun 2003	1,402	278 (19.8%)	None eligible**	785	None eligible**
Jul-Dec 2003	421	134 (18.1%)	264 (20.3%)	878	183 (20.0%)***
Total to date	1,549	328 (21.2%)	264 (20.3%)	1,663	183 (20.0%)***

Source: Quarterly reports from the Mayo Clinic program and from the AFMC program

*This rate reflects only those confirmed to have quit of those enrolled, the most conservative depiction.

** Participants were not eligible for their follow-up assessment at the time

***Out of 929 participants who were eligible for their three month assessment

Several factors should be noted when interpreting these quit rates. First, at the time of measurement, not all those enrolled during each particular time period were eligible yet for their three- and six-month follow-up assessments, so the denominators are only those for whom three- and six-months has passed since discharge. Second, the programs were not able to contact about 18 to 36 percent of discharged participants to assess their quit status. In particular, the AFMC program serves individuals who are low- income, low educational level, and highly transient. For Table 3.4, enrollees who could not be contacted were considered to not have quit, and rates were calculated by dividing the number contacted who reported they quit by the total number enrolled. Thus, the actual quit rates may be higher than what ADH has been able to document. For example, the Mayo Clinic program quit rates reported in Table 3.4 are 21.2 percent at three months and 20.3 percent at six months, whereas the quit rates for the subset of enrollees who were successfully contacted were 25 percent at three months and 25 percent at six months.

Tobacco-related disease prevention programs

Indicator: Number of miles of hiking trails constructed in the Trails for Life program

The construction of trails will start in the summer of 2004, so it is too early to be able to assess the program's success in trail construction.

Tobacco use increases the risk for a number of diseases that need to be treated and prevented even in the face of lessening tobacco use. Therefore, the CDC recommends to address tobacco use in the larger context of these diseases, attempting to link tobacco control activities to those taken to prevent tobacco-related diseases such as cancer, cardio-vascular disease, asthma, oral cancers, and stroke (CDC, 1999). As described above, the Trails for Life Grant Program is part of this comprehensive strategy, and it is expected to construct about 25 miles of new trails, with construction scheduled to start in the summer of 2004.

A comprehensive public awareness and health promotion campaign

Indicator: Number of public service announcements and community events to support tobacco prevention and cessation activities

Indicator: Percentage of media ad funds leveraged as donated funds from the media companies

Indicator: Percentage of youth surveyed who recall the SOS media campaign

Media campaigns have been documented to reduce smoking among current smokers and to prevent initiation among non-smokers (Hamilton, 1972; Farrelly et al., 2002; Siegel and Biener, 2000). Such campaigns are even more effective when implemented along with other elements of an effective tobacco control strategy, such the other components of the ADH Tobacco Prevention and Cessation Program. Guidance from the U.S. Department of Health and Human Services states that media campaigns need to have sufficient reach, frequency, and duration to be effective; that all media should be pre-tested with the target audience, and that effects of the media campaign should be continuously monitored (US DHHS, 2000).

Since its start, the SOS campaign run by the ADH has maintained a steady presence in local communities and has placed hundreds of paid advertisements across the state. As shown in Table 3.5, the community events increased slowly over time, whereas the PSAs and media spots built momentum more quickly, peeking in the second half of 2002. For fiscal year 2004, it is

planned that the SOS campaign will do placements so that Arkansans as a group will be exposed to advertisements 141 million times during the year.

Table 3.5 Media and Community Events for Tobacco Prevention and Cessation

Six-Month Time Period	Community Events	PSAs/Media Coverage
Jan-Jun 2002	0	5
Jul-Dec 2002	8	630
Jan-Jun 2003	27	295
Jul-Dec 2003	30	114

The SOS contractor has been successful in leveraging additional funding that has enabled it to provide additional media beyond what the ADH contract covered, as shown in Table 3.6. For example, $679,774 in matching funds was negotiated from the American Legacy Foundation (a 28 percent increase in the campaign budget) and local sponsorships and free media have been secured that doubled the original campaign budget.

Table 3.6 Media Advertisement Costs Paid by the ADH and from Donated Funds

	Six-month Time Period		
	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Ads paid by ADH	$448,723	$371,434	$1,021,054
Donated ads	875,877	1,000,619	1,827,316
Leverage ratio (donated/paid) *	1.95	2.69	1.79

Source: Cranford, Johnson, Robinson Woods reports

* This leveraged amount is actually an underestimate because much of the spending is "front-loaded" and should increases as the campaign progresses.

The SOS contractor hired a local survey research firm—Opinion Research Associates—to assess its media penetration over time using three representative statewide samples (about 400 teens, 400 African-American teens, and 400 adults obtained through random digit sampling). As shown in Table 3.7, recall of the SOS campaign was 73 percent for both all teens and African-American teens in November 2002, and recall increased to 87 percent of all teens and 89 percent for African-American teens in August, 2003. However, the recall rates for each of the individual elements of the campaign were much lower. Recall also increased among adults, from 44 percent to 63 percent.

Table 3.7 Percentage of Survey Respondents Who Reported They Recalled the SOS Media Campaign

	October-November 2002		August 03	
Group Surveyed	Number surveyed	Percentage Recall	Number surveyed	Percentage Recall
General Teens	401	72.8%	400	87.0%
African American Teens	400	73.0	404	89.1
Adults	400	44.0	400	63.0

Questions about attitudes toward smoking also were included in the adult survey. An additional sample of 602 adults were asked these attitudinal questions to serve as a baseline prior to the start of the media campaign. In general, the attitudes assessed among adults remained stable across the three time periods (February 2002, October 2002, August 2003). Specifically, there was little change in adults' attitudes that tobacco was a serious problem, trying to quit, recent exposure to second hand smoke at home, workplaces having a no-smoking policy, allowing smoking in the car, public places, bars, and indoor restaurants, and not allowing the tobacco industry to sponsor community events. There also was no change in the extent to which respondents avoided public places or restaurants that allowed smoking. There was a slight improvement in the attitudes that it was a serious problem that youth have access to tobacco and that smoking should not be allowed at home.

Minority initiatives

Indicator: Percentage of graduates from UAPB Addiction Studies who obtain an addiction job within AR after graduation

None have graduated yet from the program. The first class of 22 students was admitted on June 30, 2002, and the first graduates will be in May, 2004.

Cigarette smoking is a major cause of disease and death for minorities, especially for African Americans (US DHHS, 1998; Chatila et al., 2004). Smoking prevalence increased in the 1990s among African American and Hispanic youth. This reverses a trend of large declines during the 1970s and 1980s, especially among African American youths, which may be due to targeting of tobacco industry marketing efforts toward minority populations (USDHHS, 1994; 1998; 2001; Geobel, 1994; Ling & Glantz, 2002; Yerger & Malone, 2002; Robinson et al., 1992; Robinson, Pertschuk, Sutton, 1992). At the same time, minority populations traditionally have less access to prevention and treatment services, and there is clear evidence that the disproportionate tobacco-related disease burden experienced by minority communities requires specific attention.

ANALYSIS OF SPENDING TRENDS

Act 1572 of 2001 and H.B. 1021 of 2003 appropriated funds for ADH Tobacco and Cessation Programs for the first two biennium periods of the Tobacco Settlement Fund Allocation. Table 3.8 details the appropriations and actual funds received by fiscal year. Numbers in the parentheses indicate the actual amount received for a particular category. As can be seen from the table, the ADH did not receive all of the funds it was appropriated. For

example, while the ADH was appropriated nearly 40 million for the first biennium it received less than 25 million[3].

The following analysis describes the Tobacco Settlement expenditures by the ADH from July 2001 through December 2003. Because December 2003 is the middle of the first year of the second biennium, no year totals for fiscal year 2004 are presented, and it is not possible to fully detail expenditures in the second biennium because it is not yet over.

Table 3.9 presents the total annual Tobacco Settlement funds spent by the ADH during this time period, using the funds categories listed in Table 3.8. The ADH followed the appropriated budget very closely, has a detailed accounting system, and trained knowledgeable staff managing the funds. After examining the data from the ADH financial system on a monthly basis from July 2001 (the beginning of fiscal year 2002) until December 2003 (the middle of fiscal year 2004) and talking with ADH staff in charge of managing these funds, we found no discrepancies or irregularities in their accounting system or accounting practices. All Tobacco Settlement funds spent are fully accounted for in their financial system. Funds that were not spent in first year of the first biennium were carried over to the second year. Thus the ADH was able to spend slightly more in fiscal year 2003 than the appropriated amount on regular salaries and operations by using funds left over in those categories from fiscal year 2002.

[3] In fiscal year 2002, the ADH only received 871,913 for professional fees and 3,543,766 for prevention and cessation programs. In fiscal year 2003, it received only 13,281,653 for prevention and cessation programs. Therefore the total amount of money received by the ADH in the first biennium was actually 24,600,224. In fiscal year 2004, it received only 800,000 for the nutrition and physical activity program.

Table 3.8 Tobacco Settlement Funds Appropriated (and Received) for the ADH Tobacco Prevention and Cessation Program, by Fiscal Year

Item	First Biennium 2002	First Biennium 2003	Second Biennium 2004	Second Biennium 2005
(1) Regular salaries	$ 593,433	$ 634,332	$1,362,742	$1,399,537
(2) Extra help	10,000	50,000	50,000	50,000
(3) Personal service matching	158,995	168,662	370,280	377,129
(4) Maintenance & operation				
(A) Operations	217,236	217,236	206,536	206,536
(B) Travel	30,000	40,000	40,030	40,030
(C) Professional fees	1,080,000 (871,913)	1,700,000	1,700,000	1,700,000
(D) Capital outlay	41,500	41,500	0	0
(E) Data processing	0	0	0	0
(5) Prevention and cessation programs	7,374,365 (3,543,767)	24,263,722 (13,281,654)	13,868,073 (13,516,335)	13,855,204
(6) Personal services and operating expenses				
(A) Public health nurses*	1,000,000	1,000,000	0	0
(B) Nutrition & Physical Activity Program	0	0	881,000	893,869
(7) Transfer to breast cancer control fund	500,000	500,000	500,000	500,000
Annual Total	$11,005,529 (6,966,844)	$28,615,452 (17,633,384)	$18,978,661 (18,545,923)	$19,022,305
Biennium Total	$39,620,981 (24,600,228)		$38,000,966	

*Act 61 of 2003 (H.B. 1021) moved salary expenses for public health nurses into regular salaries starting in fiscal year 2004

Due largely to the immense task of starting up such a large program, the ADH was not able to spend all of the funds it received in the first biennium. According to Act 1572 of 2001, unspent funds after the first biennium were to be returned to the Tobacco Settlement Commission to be redistributed per the original spending formula. After the first biennium, the ADH returned its unspent funds, but it has not yet received any of the redistributed funds[4].

Creating a spending budget for each fiscal year is more challenging for the ADH than for the other programs receiving Tobacco Settlement funding because ADH is the only program is required to borrow ahead by estimating how much they think they will receive, spend their borrowed amount, and then get paid back by the funds. This is the case because the ADH's first year of Tobacco Settlement funding was taken to create the Rainy Day Fund.

[4] According to our calculations the ADH had 6,591,842 in unspent funds at the end of the first biennium.

Table 3.9 Tobacco Settlement Funds Spent by ADH by Fiscal Year

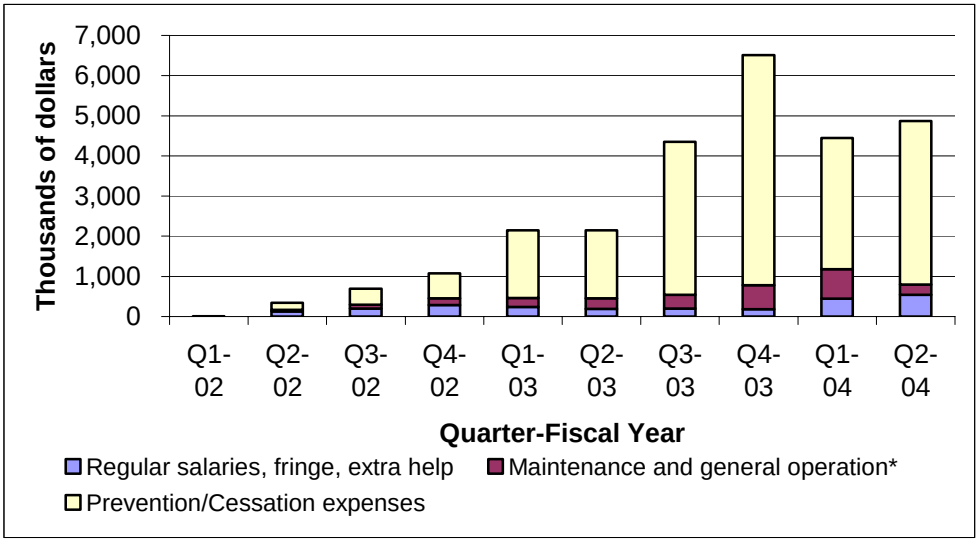
Line Item	2002	2003	2004*
(1) Regular salaries	$ 395,199	$ 496,642	$ 607,242
(2) Extra help	9,988	29,468	19,323
(3) Personal service matching	100,225	129,852	174,101
(4) Maintenance & operation			
(A) Operations	141,967	256,258	121,211
(B) Travel	29,820	21,243	21,213
(C) Professional fees	122,473	1,141,081	339,232
(D) Capital outlay	13,044	11,161	0
(E) Data processing	0	0	0
(5) Prevention and cessation programs**	1,077,892	11,937,223	7,288,759
(6) Personal services & operating expenses			
(A) Public health nurses	121,547	973,303	0
(B) Nutrition & Physical Activity Program	0	0	54,502
(7) Transfer to breast cancer control fund	500,000	500,000	500,000
Annual Total	$2,512,155	$15,496,23	$9,125,583

* Amounts spent by December 31, 2003

** Includes amounts spent on minority initiatives

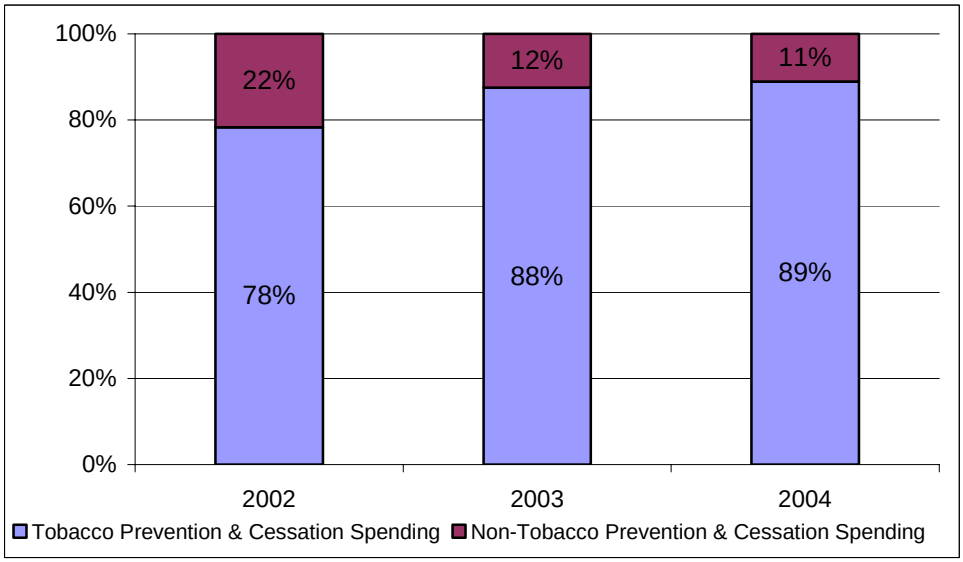
Figure 3.1 highlights the spending of the ADH by quarter for three categories: (1) regular salaries, personal service matching, and extra help, (2) maintenance and operation, and (3) tobacco prevention and cessation programs. After a slow start for the first few quarters of fiscal year 2002, spending for all of these categories increased steadily over time and then began to plateau at the end of fiscal year 2003 as the tobacco prevention and cessation programs became fully operational. ADH appears to be on track to spend most if not all of the Tobacco Settlement funds received in fiscal year 2004.

A considerable amount of Tobacco Settlement funds originally designated for ADH "tobacco cessation and prevention" were allocated, primarily by legislative action, to programs that were not directly focused on tobacco cessation and prevention. These include funds for the breast cancer control fund, the trails for life program, the nutrition and physical fitness program, and an addiction studies program at the University of Arkansas at Pine Bluff. Figure 3.2 highlights the percentage of tobacco and cessation funds spent on non-tobacco cessation and prevention activities.



*Does not include monies for the breast cancer control fund

Figure 3.1 ADH Tobacco Settlement Fund Spending, by Quarter of Fiscal Years



*Spending through December 2003

Figure 3.2 Percentage of Tobacco Cessation and Prevention Funds Spent on Non-Prevention and Cessation Activities

The CDC has created guidelines for each state for the amount of money they should dedicated to various aspects of tobacco prevention and cessation (www.cdc.gov/tobacco). Table 3.10 highlights the recommended program components suggested by the CDC and compares the spending on these components in Arkansas in fiscal years 2002-2004 with the lower end of the funding criteria the CDC specifically designed for the state of Arkansas. Across

almost all of the nine CDC activities in all fiscal years, it appears that spending is lower than the lowest amount of money recommended by the CDC to be spent in Arkansas on tobacco prevention and cessation.

Table 3.10 Tobacco Settlement Funds Spent on Tobacco Prevention Programs Compared to CDC Guidelines*

Recommended Program Component	2002	2003	2004**	Lower End of CDC Funding Criteria***
Community Programs to Reduce Tobacco Use	334,572	3,209,286	4,815,273	2,892,133
Chronic Disease Programs	70,941	862,263	*278,358*	3,117,667
School Programs	121,547	2,500,355	2,587,152	2,701,978
Enforcement	318,123	600,852	*741,504*	1,366,468
Statewide Programs	112,019	1,070,338	1,492,275	1,116,611
Counter-Marketing	344,447	1,943,721	*1,948,675*	2,789,317
Cessation Programs	169,353	2,137,104	*2,700,395*	3,229,328
Surveillance and Evaluation****	150,033	709,418	*565,777*	1,721,350
Administration and Management	345,581	529,019	*556,847*	861,228
Total spent on tobacco-related programs	1,966,616	13,562,356	15,686,256	19,796,080
Totals spent on non-tobacco areas	545,540	1,933,875	1,947,129	

* CDC recommended program element budgets for tobacco prevention activities. Source: www.cdc.gov/tobacco

** Total monies spent by the end May 31 2004 with June 2004 estimated. Items in italics are below minimum spending level recommended by the CDC.

*** These CDC estimates have been converted from 1999 to 2004 dollars.

**** ADH builds in evaluation into all of its contracts and grants, and because there is no way to quantify that, the above is an underestimate of the amount that ADH actually spends on evaluation.

EVALUATION OF THE PROGRAM

This section summarizes the progress the ADH has made after two-plus years of operation in meeting the requirements of the Initiated Act. Consideration is given to activities the ADH was required to undertake to establish its programs and infrastructure. Then consideration is given to its implementation of the program components activities defined in the Initiated Act, with an emphasis on those specified by the CDC evidence-based practice guidelines.

Formation and Planning

Appendix B shows the steps the ADH needed to take to establish program as specified in the Act. These guidelines specify how to form the Tobacco Prevention and Cessation Advisory Committee, which programming components the ADH should choose, a timeline for when the ADH should commence its activities, and the setting aside certain amount of funds for minority initiatives. The ADH has successfully met all of these guidelines.

Community Prevention Programs that Reduce Youth Tobacco Use

Community programs are a critical element to an effective tobacco control strategy. Most have shown to be effective in reducing the use of tobacco, including the American Stop Smoking Intervention Study (ASSIST) for Cancer Prevention (Manley et al., 1997a; 1997b) as well as community programs implemented during the 1990s in California (Pierce et al., 1998a; 1998b), Massachusetts (Abt Associates Inc., 1997; 1999), and Oregon (Oregon Health Division, 1999). To achieve these results, a program needs to have the scope of activities called for in the CDC guidelines, and it must be implemented effectively. A poorly implemented program will not achieve its goals, as exemplified by the negative results of one large program, the Community Intervention Trial for Smoking Cessation. This program was the largest randomized smoking intervention trials in the world. It achieved only modest reductions in smoking due to implementation problems (Green and Richard, 1993; Fisher 1995; Susser 1995; Glasgow et al. 1997; Ockene et al. 1997; Taylor et al. 1998).

The 25-35 Arkansas coalitions that have been developed to date through ADH grants have done well in establishing their structures and conducting their activities. These coalitions got off to fast starts in implementing a large number of service and media oriented activities. In addition, the coalitions have achieved a number of community changes already in these early stages of coalition development. At the same time, the ADH continues to face barriers in their community coalition program. For example, the ADH ran into a challenge in Fayetteville over whether activities supported by Tobacco Settlement funds could be used to encourage adoption of local ordinances prohibiting smoking in public establishments. At the behest of the Governor, the ADH released a letter to clarify the rules on what actions the coalitions can and cannot take regarding lobbying and education. However, some coalition members and others in the state reported that the letter was confusing and may have had the effect of stifling their actions.

Local School Programs for Education and Prevention

Well-designed school prevention programs have been shown to be effective in preventing tobacco use among youth if they are well implemented (National Cancer Institute, 1990; Glynn, 1989; Walter, 1989; Walter, Vaughn, Wynder, 1994; CDC, 1994; CDC, 1999). For example, Oregon initiated in 1997 a statewide tobacco control strategy very similar in scope to the ADH program, including tobacco education in school districts. Data from annual school-based surveys in Oregon indicated that 30-day smoking prevalence among eighth grade students declined more in funded schools than in a comparison group of non-funded schools, especially among schools with higher levels of program implementation (Oregon Health Division, 2000). In contrast, other rigorous studies have found that school-based programs have no effect on youth smoking (Peterson et al, 2000).

The ADH funded the 11 educational cooperatives, and it also hired school nurses to provide technical assistance to the cooperatives to ensure that they follow the CDC practice guidelines for school-based prevention and cessation. These nurses have been assisting the cooperatives actively. With technical advice from RAND, the ADH has developed a process evaluation mechanism and is tracking their activities and documenting how well they are meeting the CDC best practice guidelines for schools. The cooperatives have made good progress in meeting a majority of the CDC's best practice guidelines for schools, including providing programming K-12.

Enforcement of Youth Tobacco Control Laws

Enforcement of under-18 laws to restrict purchase of tobacco products by youth is an important part of a comprehensive strategy effort to reduce young people's tobacco use (Forster, Wolfson, 1998; Chaloupka, Pacula, 1998), but it has been found that this strategy is not effective when used on its own (Fichtenberg, Glantz, 2002). Even when the enforcement of these laws makes purchasing tobacco more difficult, youth may use what is known as "social sources" of tobacco products—for example older friends and family members (Hinds, 1992; Forster et al., 1998; Cummings et al., 2002; Jones et al., 2002). Therefore, minors' access restrictions need to be combined with merchant education and a comprehensive tobacco control program that reduces the availability of social sources and limits the appeal of tobacco products (CDC, 1999; Chaloupka, Pacula, 1998; Forster et al., 1998; Rigotti et al, 1997).

The ATCB was somewhat slow to start its store compliance checks due to staffing constraints, but it has developed a sound infrastructure in which to conduct enforcement all across the state. As shown above (Table 3.3), the ATCB substantially increased the number of checks it made in the second half of 2003, at which time it had become fully staffed. It has developed a computer system that allows it to efficiently track checks and violations by location, and its quarterly reports to ADH have improved. As a result of these efforts, the violation rate has declined steadily, despite the ATCB contractual requirement to focus checks on stores suspected to be violating the sales to minors law, which presumably would yield higher violation rates.

The ATCB continues to face a variety of challenges. First, the lack of resources seriously hampers its efforts at providing comprehensive merchant education to accompany its compliance checks. The ATCB has sound plans to conduct such an education program, including partnering with the Arkansas Department of Human Services, Alcohol and Drug Abuse Prevention's 13 Prevention Resource Centers to perform comprehensive education across the state. But with existing resources, it cannot do that education unless it reduces the number of store checks it performs.

State-wide Programs with Youth Involvement to Increase Local Coalition Activities

Both of the statewide youth smoking initiatives—the Coalition for Tobacco Free Arkansas and the Arkansans for Drug Free Youth—have been extremely active, and their activities are clearly called for by the CDC guidelines and are in accordance with the Initiated Act. It is unclear, however, what direct effects their activities are having on youth smoking or environmental tobacco smoke. This issue is not unique to the Arkansas tobacco control efforts. It can be difficult to determine the direct effects of some of the components of the comprehensive tobacco control strategy recommended by the CDC. In addition, both of the coalitions have established goals that are overly ambitious, and they do not have the resources to be able to assess their progress in achieving those goals. For example, one goal is to "prevent the initiation of tobacco use and the promotion of cessation among Arkansas' youth."

One example of a direct outcome from this work is action by the Little Rock Airport to become smoke free in May 2003, which was stimulated through the educational efforts of the CTFA. Despite the difficulty in attributing effects to these statewide coalitions, their efforts contribute to the overall comprehensive ADH strategy and could very well be contributing to the overall pressure for changes in smoking behaviors statewide.

Tobacco Cessation Programs

Both the Mayo Quitline and the AFMC have been performing well, achieving smoking cessation rates at or above what is normally expected for such programs. However, the lower call volume experienced recently by the Quitline is a concern (see Table 3.4). Because the population targeted for treatment by the AFMC and Mayo Clinic is low income and transient, it is difficult for the programs to follow up with all program enrollees to confirm their smoking cessation rates. Successful follow-up allows for better treatment and more accurate assessment of success, so it would be beneficial if the programs could find a larger percentage of enrollees. However, this extra follow-up effort probably would require additional resources.

The 11 innovative projects were short-term projects that utilized different best practice strategies. The programs that focused on cessation reached a low number of total participants, and their overall impact is unclear. Many were not able to collect outcome data on the effects of their interventions, and those that did collect data obtained low quit rates (6 to 17 percent). The projects that did not involve cessation programs (media campaign, the UAMS Center for Health Promotion Tobacco Free Hospitals project) are difficult to evaluate for short-term improvements. The ADH has discontinued this program. Given the success of the Mayo Clinic Quitline and AFMC cessation program, they appear to be putting the tobacco settlement resources to better use than did the innovative projects.

Tobacco-Related Disease Prevention Programs

The Arkansas Cancer Coalition was able to, through the funding of five separate projects from Dec 2002 to June 2003, provide screening services, professional trainings, and education to a diverse cross section of youth and adults across the state, appropriately linking tobacco with and tobacco-related disease, notably lung and oral cancer. In addition, some prevention and cessation funds supported the completion of a baseline statewide assessment on asthma and the goals and objectives of the Cardiovascular Health Task Force's Tobacco Workgroup have been incorporated into the CVH State Plan. While these projects yielded a significant amount of activity and certainly contributed to the larger comprehensive tobacco control strategy, their specific impact is unclear as there was little local evaluation built into these efforts.

The Breastcare and Act 1220 childhood obesity programs appear to be providing valuable services to the citizens of Arkansas. Breastcare has provided screening and treatment to hundreds of persons who otherwise would have had to find other means to obtain those services. The childhood obesity program, while still early in its implementation, has the potential to affect a clear public health need within Arkansas. It is still too early to judge the impact of Trails for Life since the awards were made in March 2004 and trail construction has not yet begun. Some of these prevention programs do not have strong evaluations. For example, there is little evaluation planned for how Trails for Life will affect the physical fitness levels of Arkansans.

The above Cancer Coalition, CVH, and asthma efforts are important, but the majority of the efforts in this area, while focused on health broadly, do not involve tobacco. It is important to note that, in choosing to use the Tobacco Settlement funds to implement these broader health prevention programs, the state has made a tradeoff that will weaken the ability of the tobacco prevention and cessation program to reduce smoking rates. Every dollar that is moved to the broader health prevention programs reduces the intensity of programming that can be applied to

tobacco use. This reallocation has reduced the total funding level that ADH uses for tobacco prevention and cessation below what the CDC recommends for Arkansas.

Public Awareness and Health Promotion Campaign

The media campaign has been broadcasting their anti-tobacco campaign across the state through a variety of media channels and community events and has conducted surveys evaluating their reach and recall. The campaign has been very successful in leveraging free media to expand the reach of the campaign, and future plans for a broader-based campaign should further strengthen its contribution to educating Arkansans on smoking issues. In addition, some community coalitions and other ADH-supported programs are implementing their own media campaigns, which should reinforce this statewide campaign.

Minority Initiatives

The League of United Latin American Citizens (LULAC) and the Arkansas Medical, Dental, and Pharmaceutical Association (AMDPA) have completed their funding from ADH. Both programs accomplished a great deal with the funding they received. LULAC conducted an assessment of Hispanic smoking rates and attitudes, established a bilingual hotline, and aired several dramatized live testimonies. AMDPA surveyed about 500 African-Americans about their tobacco use and attitudes, and it conducted several community events and workshops. At the time the LULAC and AMDPA submitted their final reports to the ADH, they had made excellent progress but had not met all the objectives in their initial proposals. Now that their funding is over, the future accountability of these programs to the ADH cannot be maintained, and it is not clear that their remaining objectives will be achieved.

The Minority Initiative Sub-Recipient Grant Office and its community grant program has made good progress. It provides a source of funding that minority communities are using for minority-focused tobacco control efforts. The Grant Office is on schedule to disburse funds for the next round of funding.

The Addiction Studies program at UAPB has made excellent progress, having received accreditation and enrolled a class of students scheduled to graduate in May 2004. However, this education program is preparing people to work in substance abuse treatment, and is not focusing specifically on smoking. Although substance abuse is an important health need in the state, this is another use of the Tobacco Settlement funds that is not directly tied to smoking behavior and tobacco related diseases. Therefore, this educational program likely will have little direct effect on smoking rates, and what effects it does have will take place in the future.

Grants and Contracts for Monitoring and Evaluation

The ADH has included evaluation components in almost all of the tobacco and cessation activities that it has funded, including the major Gallup evaluation of the community and education coalitions. Because the ADH has structured the evaluations as part of the grants and contracts, however, it must rely on the grantees and contractors to perform the evaluations. From our observations of the evaluations, it is apparent that the grantees and contractors vary widely in their evaluation skills and knowledge, as well as in the resources they are using for evaluation. In several instances, the grantees and contractors have not yet completed development of their evaluation processes and data collection materials, which weakens the validity and credibility of any data emerging from these evaluations. Examples of instruments that were slow to be

developed are the Gallup logs, the coalition assessment report, the mechanism to report on CDC guideline compliance, and the public health nurses reporting mechanism.

FINDINGS AND RECOMMENDATIONS

Key Findings

The ADH has successfully met all of the planning requirements set out in the Initiated Act. These include starting the program within six months of available appropriation and funding, as well as establishing the local tobacco prevention initiatives (community coalitions). The programs and coalitions funded by the ADH reached full operation in a timely manner, and in general they are progressing on schedule, as follows:

- The community coalitions have begun to bring about changes in their communities, but more time will be needed for them to have significant impact on tobacco use.
- Most of the education cooperatives, with assistance from the public health nurses, have begun to put in place activities consistent with the CDC guidelines for schools.
- The Arkansas Tobacco Control Board is successfully conducting enforcement activities all across the state, and obtaining a low violation rate, but it is not performing much merchant education on tobacco use issues.
- Both statewide coalitions (Coalition for Tobacco Free Arkansas and the Arkansans for Drug Free Youth) have been extremely active; their activities are clearly called for by the CDC guidelines and are in accordance with the Initiated Act.
- The primary cessation programs—the Mayo Quitline and the AFMC program—have been performing very well, achieving quit rates either at or above what is normally expected for such programs.
- The media campaign achieved a high degree of recall of their advertisements, although there have not been changes in attitudes toward tobacco use. The campaign also has been successful in leveraging free media, further extending the reach of the campaign.
- Minority Initiative Sub-Recipient Grant Office and its community grant program has distributed funds to almost all minority communities; it is too early to assess impact of this grant program.
- ADH has emphasized evaluation in all of its grants and contracts, however the implementation of evaluations at the local level has varied widely.
- After a slower start, the ADH has been on track with spending their tobacco settlement funds, including this most recent six month period (July-Dec 2003); however, not all tobacco settlement funds have been spent exclusively on tobacco issues.

Although Arkansas is one of a few states that has spent its tobacco settlement dollars almost exclusively on health, it is still under the minimum levels for the nine components of a comprehensive statewide tobacco control strategy recommended by the CDC. Mostly by legislative action, funds slated for tobacco prevention and cessation have been diverted to other health concerns. Funds that were returned by ADH in the first biennium have not been redistributed back to the funded programs (included ADH) as specified in the Act.

Although the ADH tobacco prevention and cessation initiatives are comprehensive and consistent with the CDC practice guidelines, this programming does not include other activities that directly address "tobacco-related disease prevention programs", which also are recommended by the CDC guidelines. Examples of programs that link tobacco control activities to activities designed to lessen the impact of tobacco-related diseases include linking tobacco control to cardiovascular programs, building awareness of second hand smoke as a risk factor for asthma, training dental providers to discuss with their patients the link between tobacco use and oral cancer (CDC, 1999). In addition, the ADH program could be reinforced by legislation that established a statewide ban on smoking in public establishments or increased the price of tobacco, both of which has been shown to be effective in other states that have implemented such practices (Hopkins et al, 2001). Efforts such as the recently enacted bans in Fayetteville, the Arkansas Department of Health facility, the UAMS campuses, and within 25 feet of all state agencies (as part of the Governor's Health Arkansas Initiative) represent positive progress towards these types of environmental policies.

We recognize that the Tobacco Settlement funds provided to the ADH are limited, and it may not be possible to conduct such programs. Furthermore, it is yet more difficult given that some of the ADH tobacco settlement funds have been used to address competing health needs that are not part of a tobacco control strategy. The leadership of ADH and the state legislature will need to decide which course is the most appropriate, given the needs of Arkansas and the funds available. To the extent that funding is reduced for direct tobacco control activities, it can be expected that the ADH program will have weaker impacts on smoking rates.

Recommendations

- **Funding levels for the nine components of a comprehensive statewide tobacco control strategy should be raised to the minimums recommended by the CDC for Arkansas.**

The CDC has reported that Arkansas should be spending a minimum of $17,906,000 a year (in 1999 dollars) on a comprehensive tobacco control strategy, as specified in the CDC evidence-based practice guidelines. As shown by our spending analysis, the ADH spent $15,528,972 of the Tobacco Settlement funds on its tobacco prevention and cessation activities in the first biennium of funding, and another $2,479,415 of these funds were moved to support other health prevention programs during the same period. With this loss of resources for tobacco-related activities, the ADH will make slower progress in reducing smoking rates across the state.

- **Funded programs that are not within the scope of tobacco prevention and cessation programming, as defined by the CDC guidelines, should be re-evaluated for their value in contributing to reduction of smoking and tobacco-related disease.**

Programs that are not directly related to tobacco prevention and cessation include the four health prevention programs (Breastcare, Great Strides, Governor's Council on Fitness, and Act 1220) as well as the UAPB's Addiction Studies program. There is no doubt that these programs are addressing important public health needs for Arkansas, but their services fall beyond the scope of the programming mandated by the Initiated Act. This issue is relevant to the previous recommendation because the use of some of the Tobacco Settlement funds to support these programs dilutes the ability of the ADH Tobacco Prevention and Cessation program to achieve its goals of reduced smoking and tobacco-related disease.

- **Provide the community coalitions more assistance in planning and evaluating their activities.**

The coalitions got off to such a fast start that their strategies may not be fully planned or cohesive, which could be detrimental to their future progress. Efforts are needed to reverse the recent trend of declining media coverage of the coalitions' activities. In addition, the distinction between lobbying and education needs to be made more clear to the coalitions. Clearly education is a core activity for the coalitions, and if they are prevented from engaging such an activity, their mission could be undermined.

As the work of the coalitions proceeds, they should be monitoring their progress routinely with feedback for practice improvements. In addition, they need to assess what effects they are having on their goals and tobacco use outcomes, yet most of the coalitions are not focusing their evaluations on outcomes at all. The ADH is in a position to build in some standardization across coalitions in their use of outcome assessment. For example, requiring all coalitions to use at least some similar outcome measures would provide the ADH with better data from which to make conclusions about the coalitions' effectiveness.

The Gallup system of logging events from different categories, and the corresponding online system, needs to be finalized. More technical assistance is needed to assist the coalitions to complete these logs accurately and in a timely fashion. All of these evaluation efforts should emphasize program improvement. The Gallup system should be programmed so that it generates reports that can be used by the coalitions to improve their operations. ADH staff should review the work plans and interview coalition staff, and should use the evaluation results to inform program improvement efforts.

- **Provide technical assistance and evaluation feedback to the schools in the educational cooperatives to move them to full compliance with the CDC best practice guidelines for schools.**

The educational programs at all the schools participating in the cooperatives should have all the components specified by the CDC guidelines, and they should be evaluated for their effects on youth outcomes (i.e., smoking behavior and attitudes). To support the evaluation efforts, the reporting forms in the evaluation system jointly designed by ADH and RAND need to be fully completed by the cooperatives on a timely basis. This mechanism provides valuable information about the cooperatives' progress that can be used by ADH staff to guide their decision-making. In addition, this mechanism could be further refined to capture more detailed information at the school level in addition to the cooperative level.

- **Provide the ATCB additional financial resources to conduct merchant education.**

The effectiveness of this enforcement arm of the ADH program is being weakened by not including education for merchants to help reduce violation rates and change views about smoking. A number of local coalitions and community efforts have included tobacco compliance checks in their activities. These groups and the ATCB might be able to pool resources and expertise to more efficiently conduct these checks, which could free some ATCB resources for merchant education. Also, the ATCB still has one vacancy that it should fill to ensure that it can meet its goals of 8000 checks made in FY04 and add capacity for education. The ATCB should select carefully the types of tobacco outlets to be checked and focus on those

where the checks can have the greatest impact on tobacco sales to youth, for example vending machines, which have the highest violation rate of any tobacco outlet type.

- **Place stronger expectations on the statewide coalitions to evaluate their activities and the effects they are having across the state.**

Similar to the community coalitions, the statewide coalitions tend to count the activities they are performing without examining them critically with respect to what effects they are having. For example the ADFY is creating Youth Boards in communities across the state, and it is counting the number of Youth Boards established. But no work has been done yet to assess what impact these Boards are having in their own hometowns. In addition, the ADH should track and provide feedback to both coalitions about their progress in carrying out all the activities defined in their work plans.

- **Additional resources should be provided to the smoking cessation programs to help them expand and improve in specific areas they have been found to be limited, including pharmacotherapies for the AFMC and advertising of the Mayo Quitline.**

It has been reported that some of the AFMC sites do not have the resources to provide pharmacotherapies, such as the nicotine patch, to all those in need of these drugs. Patches and other drugs are considered a CDC best practice for cessation, and the effectiveness of these programs is weakened without being able to provide the drugs. The Mayo Quitline benefited during its startup from a large advertisement budget, which helped to generate interest among smokers ready to quit. The recent reduction in enrollments may be the result of reducing the advertising. Given that additional resources may not be available, the ADH could explore ways to utilize its community and statewide coalitions to disseminate information about the Quitline. Finally, expanding the capacity of these cessation resources, given the nearly half a million smokers presently in Arkansas, could have a significant impact on the state's health.

- **The ADH should take the initiative to identify all the smoking cessation activities funded by the Tobacco Settlement funds, and work with the other funded programs for a collaboration to coordinate the programs to more effectively serve a large number of Arkansas smokers.**

A number of programs funded by the Initiated Act that are providing cessation services, including several of the programs funded by the ADH, the Minority Health Initiative, and the Delta AHEC. All of these programs could be more effective if they worked together to ensure that smoking cessation services are being provided where needed and that services are not being duplicated in local areas.

- **Continue the statewide tobacco awareness campaign without a decline in intensity, and increase its coordination with other anti-tobacco media campaigns being operated across the state**

The effectiveness of anti-tobacco media campaigns are clearly linked to their duration, intensity, and reach. Therefore, lessening the media campaign could reduce its own direct impact on tobacco use and attitudes as well as the impact of the other components. In fact, a useful strategy to leverage the resources spent on this and other media campaigns is to coordinate the activities of the various campaigns to most effectively reach communities across the state.

- **The ADH should examine its media campaigns to ensure that they are consistent with the overall message the ADH wants to convey, and to assess its effectiveness in reaching Arkansans and changing their attitudes about tobacco use.**

Data collection procedures already are in place and being used to assess the effectiveness of the media campaigns. These data could be used to do further analysis to make comparisons between those who have been exposed to the campaign (or to different elements of the campaign) versus those who have not. These analyses should be used to adjust the campaign to strengthen its impacts and to guide future media campaign strategies.

- **Provide more technical assistance to the Minority Initiative Sub-Recipient Grant Office on reporting, activities that are evidence-based, and evaluation.**

The Minority Initiative community grantees will require continued funding to achieve their goals. Many stated that providing funds for longer periods of time would allow them to focus more on tobacco issues, and less on continually writing applications for continued funding. More technical assistance is needed from the Minority Initiative Sub-Recipient Grant Office on the required reporting and evaluation activities. In addition, both LULAC and AMDPA plan to continue their efforts. The ADH would gain more information on their impacts by tracking their continued activities, if they are willing to share information now that their grants have ended.

- **All of the evaluation mechanisms the ADH is using should be finalized and adequate technical assistance provided to these mechanisms end-users.**

As stated above, the programs and coalitions funded by the ADH are in need of a systematic approach to monitoring and improving their program activities. The evaluation mechanisms the ADH has developed offer the foundation for providing them needed assistance. These tools should be supplemented with training in data collection and assessment methods, as well as with clear expectations by ADH for reporting of evaluation data on a routine basis. This effort can be greatly assisted by the assistance of an epidemiologist. For several months, TPEP did not have the services of an epidemiologist, but with the filling of this position, the TPEP is at full staffing as budgeted for the Tobacco Settlement appropriation. It also would be beneficial for the ADH to standardize at least some of the evaluation requirements and formats for the grantees and contractors so results can be synthesized across programs.

- **ADH should enhance its tobacco-related disease efforts.**

There are a variety of programs that would more faithfully address “tobacco-related disease prevention programs” as recommended by the CDC guidelines, for example linking tobacco control activities to activities designed to lessen the impact of tobacco-related diseases. Linking tobacco control programs to cardiovascular programs, building awareness of second hand smoke as a risk factor for asthma, training dental providers to discuss with their patients the link between tobacco use and oral cancer are all examples of how this has been done (CDC, 1999). While the ADH has conducted some of these activities, more could be done. In terms of percent of the CDC funding criteria (20% across 2003-04) and absolute dollar amount, this area is the least funded of all the CDC program areas. However, the ADH must have adequate resources to conduct such programs.

Chapter 4.
Arkansas College of Public Health

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

The Initiated Act 1 of 2000, entitled the Tobacco Settlement Proceeds Act (the Act), provided funding for "the Arkansas School of Public Health (Changed to the "College" of Public Health through Act 856 of 2003) (COPH). According to the Act:

> "The Arkansas School of Public Health is hereby established as a part of the University of Arkansas for Medical Sciences for the purpose of conducting activities to improve the health and healthcare of the citizens of Arkansas. These activities should include, but not be limited to the following functions: faculty and course offerings in the core areas of public health including health policy and management, epidemiology, biostatistics, health economics, maternal and child health, environmental health, and health and services research; with courses offered both locally and statewide via a variety of distance learning mechanisms.
>
> It is intended that the Arkansas School of Public Health should serve as a resource for the General Assembly, the Governor, state agencies, and communities. Services provided by the Arkansas School of Public Health should include, but not be limited to the following: consultation and analysis, developing and disseminating programs, obtaining federal and philanthropic grants, conducting research, and other scholarly activities in support of improving the health and healthcare of the citizens of Arkansas."

PROGRAM DIRECTION AND OPERATION

The COPH of the University of Arkansas for Medical Sciences (UAMS) was appropriated funds by the Arkansas General Assembly to begin operations July 1, 2001. The mission statement of the COPH, originally adopted in May 2001, is "to improve health and promote well-being of individuals, families, and communities in Arkansas through education, research, and service."

As of January 2002, the COPH began to offer a 42-hour Master of Public Health (MPH) program with a number of specializations available and an 18-hour Post Baccalaureate Certificate program. In addition, The UAMS College of Medicine and the COPH are now offering a combined MD/MPH degree program that will permit students to enroll concomitantly in both the College of Medicine and the College of Public Health and complete all requirements for both degrees in a four-year period of time. Beginning in Fall 2003, the COPH students could pursue the Juris Doctor (JD) and the MPH degrees concurrently in the William H. Bowen School of Law and the College of Public Health. As of January 2004, the COPH added the Doctor of Public Health program.

Education Program Startup and Development

In order to provide classes for the first students within 12 months of initiation (in Spring 2002) as required by the Act, the COPH recruited 152 faculty (commonly referred to as the "virtual faculty") from around the state to teach courses. In that spring semester, 13 courses were offered to 43 students. Since then, more full-time faculty have been hired (25 FTE as of December, 2003). More courses have been developed, and now several core courses are

available through distance learning mechanisms (internet or compressed video). The COPH intends to make all the core courses available in this manner.

In addition to the starting of classes, the COPH successfully completed a number of other tasks related to start-up. They have hired a permanent dean who is widely viewed as an excellent choice for the post. His early emphasis on pursuing accreditation from the Council on Education for Public Health has been cited as evidence of his value to the COPH.

The COPH also adopted a set of general governance principles on July 27, 2001 and revised these principles on July 3, 2003. This latest document describes several governing committees including Dean's Executive Committee, Joint Oversight Council, and a number of others. The document also specifies a number of COPH operating policies.

Service to State Government

The COPH has taken several steps to ensure that public health service activities are realized. The COPH has incorporated "service" into their mission statement, created the Office of Community Based Public Health as part of the Dean's Office, and the Community Based Public Health Committee to make recommendations to support service activities, and they have made service a requirement for advancement for COPH faculty.

The COPH has engaged in a number of activities that have supported the General Assembly and state agencies. It prepared a legislative briefing book called, *Improving Health of Arkansas Communities-A Public Health Approach*, to all members of the 84th General Assembly that outlined the major health threats to Arkansas. The COPH has testified before the General Assembly and the Public Health, Welfare, and Labor Committee on a range of health topics, including testimony in support of HCR 1005, urging legislators to commit to specified healthy behaviors during the 84th General Assembly. HCR 1005 passed with approximately 80 of the 100 House members voting for it. Most recently, the COPH has received funding to conduct an evaluation of Act 1220 of 2003. This legislation aims to battle childhood obesity in Arkansas by implementing several approaches, including tracking the Body Mass Index (BMI) of schoolchildren. The COPH is acting as a resource to a number of Arkansas state agencies. The COPH and the Arkansas Department of Health (ADH) have formed a close partnership. The COPH also works often with the Area Health Education Centers, the Department of Education, and the Arkansas Minority Health Commission. By act of the General Assembly, a COPH appointee is designated to serve on committees that address school health and nutrition ensuring collaboration with numerous state agency designees and educators from around the state.

The COPH has a training initiative with ADH that supports ADH employees in two ways. First, 70-75 employees participate each year in the COPH program, Arkansas Academy for Public Health Leadership, receiving intensive public health training designed to enhance and develop leadership skills through quarterly 2-day workshops. Second, the COPH Workforce Development Program is a 4-hour workshop that helps ADH employees increase their awareness of the importance of the 10 Essential Public Health Services and the Competencies of Public Health Professionals (as defined by the Council on Linkages between Academia and Public Health Practice) and the relevance to their specific jobs. All current ADH employees are expected to attend this workshop, and the long-term vision of the ADH is to have this program become part of ADH orientation.

Service to the Community

Community-based participatory programs in all areas of research, service, and instruction have been identified as essential for the COPH to meet its mission. The COPH specifically created the Office of Community Based Public Health (OCBPH) to develop and maintain close partnerships, based on the established principles of Community-Based Public Health, to coordinate with the Community-Based Public health Committee to facilitate community-wide activities identified by the community, to support community teaching and service learning experiences, and community-based participatory research. The COPH has three Community Liaison's who work to set up model public health communities in a rural and urban setting in the state. At the Phillips County rural site, the COPH works through a non-profit organization, the Mid-Delta Community Consortium (MDCC), in collaboration with ADH, Phillips County Community College; and the Boys, Girls, and Adults Community Development Center (BGACDC). In the Pulaski County urban setting site, the COPH has established a partnership with two community organizations: We Care, a predominately African-American community organization in Southeast Pulaski County and La Casa, a Hispanic community organization in Southwest Pulaski County.

COPH has made a contribution to these programs by providing expertise, resources, and technical assistance. Staff in the OCBPH have helped communities write grants and obtain grant funding. Due to the involvement of COPH, We Care was able to hire paid staff and has been able to substantially increase the number of people that they serve. Through the preceptorships, COPH students participate in the community organizations and provide both technical assistance and added staffing. For example, because a student is working with La Casa, they have been able to build an Access database to track the clients they serve and obtain a better understanding of the issues and problems occurring in their community. The COPH students report that these preceptorships are an important part of their work towards their public health degree, and they enjoy being able to have this community experience.

Progress Toward Accreditation

One of the goals that the COPH has been working towards is receiving accreditation. The pre-accreditation process was started in October 2002, and in February 2003 the COPH requested a Council on Education for Public Health (CEPH) review. CEPH is an independent agency recognized by the US Department of Education to accredit schools of public health and certain public health programs offered in settings other than schools of public health. The CEPH site visit occurred January 7 –9, 2004 and a report was sent to Dean Raczynski on February 26, 2004. The COPH drafted a response letter to the report on April 1, 2004.

The CEPH report was very positive. The COPH "met" many of the evaluation criteria and received a "met with commentary" or "partially met" evaluation score for some criteria due to the newness of the college. For example, the criterion, "the school shall have resources adequate to fulfill its stated mission and goals, its instructional, research, and service objectives" was partially met because the COPH is still growing as institution. Specifically, the CEPH stated that the college has worked hard to build a strong, broad based and well-established network of academic, government and community partners across the state; however, there is still a need for more faculty resources to support all six departments. The COPH continues to make recruiting and hiring a faculty a priority so will likely meet this criteria as the accreditation process continues. Appendix E shows the results for the 24 criteria from the CEPH evaluation.

The COPH was notified on Monday, May 17, 2004 that they had received pre-accreditation effective Thursday, May 13, 2004. Pre-accreditation is a category of being accredited and gives the COPH all of the rights and privileges of being accredited, including full membership in ASPH and ability to apply for funding that requires that applicants be accredited schools of public health.

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Four indicators were chosen to represent the overall progress in implementing the COPH program. These indicators track progress on fulfilling the mandates in the Act for the program to (1) increase the number of communities in which citizens receive public health training, (2) obtain federal and philanthropic funding, (3) conduct research, and (4) serve as a resource to the General Assembly, the Governor, State agencies, Communities. An endpoint indicator is that the COPH should receive accreditation from CEPH by May 2004, which is discussed above. Other measures of the COPH goals, development process, and tasks are discussed in Appendix F.

Increase the number of communities in which citizens receive public health training.

Indicator: Percentage of all enrolled students who originate from each of the AHEC regions

The enrollment goal was to ensure that the COPH attract students for public health training from a broad geographic range of communities and counties across the state. The COPH has undertaken numerous activities to recruit a wide range of students, including having information available online, advertising at several relevant conferences, in brochures, via a toll-free number, and at Town Hall meetings. The COPH presents information to high school students, offers non-degree classes, and collaborates with other universities in the state. It also offers a 70 percent tuition discount to full time employees for the Arkansas Department of Health (ADH), Department of Environmental Quality (DEQ), and the Arkansas Minority Health Commission (AMHC) employees.

Table 4.1 and Figure 4.1 show the distribution of students by region of origin (birthplace). COPH has had students attend their program from many different regions, and diversity has increased over the past two years. Because these percentages are based on students birthplace, there appears to be a large proportion of “foreign” and “out of state” students; however, all students seeking degrees in the program are current residents of Arkansas.

Table 4.1 Distribution of Students by Region of Origin

Region	Spring '02	Summer '02	Fall '02-03	Spring '03	Summer '03	Fall '03-04
Number enrolled	43	15	93	119	86	177
Central	49.0%	58.8%	28.0%	32.7%	23.3%	28.0%
South Central	13.7	11.8	12.9	14.3	25.6	16.0
North Central	2.4	0.0	3.2	5.0	5.8	7.0
Northeast	9.4	11.8	8.6	3.4	5.8	7.0
Northwest	4.6	0.0	4.3	3.4	5.8	5.0
Southwest	0.0	0.0	4.3	7.6	3.5	3.0
South	2.4	0.0	3.2	3.4	5.8	5.0
Delta	2.4	0.0	4.3	4.2	1.2	3.0
Out of State	13.7	17.6	20.4	19.3	17.4	18.0
Foreign	2.4	0.0	10.8	6.7	5.8	8.0

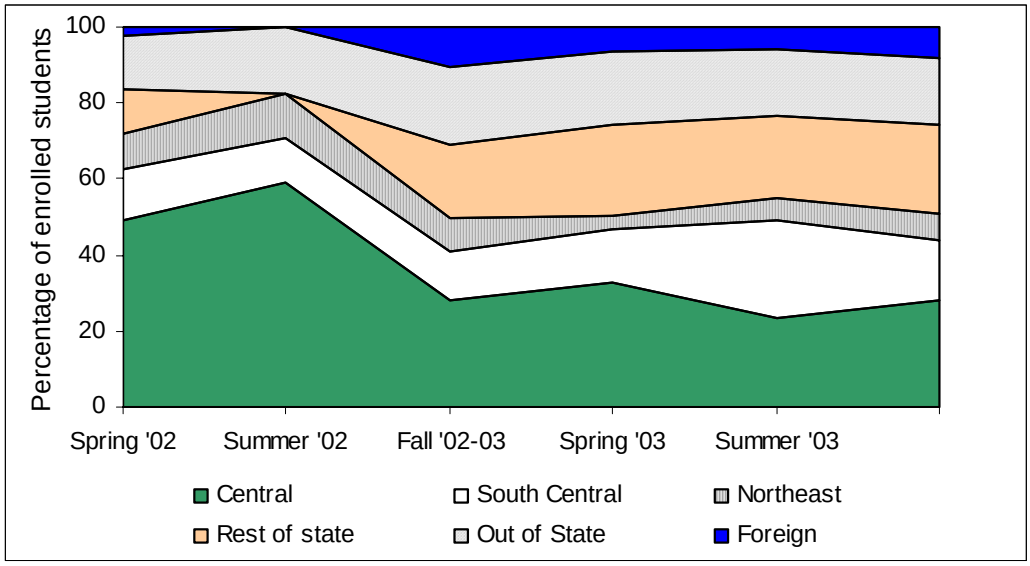


Figure 4.1 Trends in Enrollment Distributions by Region

Indicator Percentage of graduates pursuing employment in a public health-related field. The first student graduated in December 2003.

COPH is also measuring the percentage of graduates pursuing employment in public health-related fields. This will take time to measure, however, as COPH just began admitting students into the program in January 2002. The first student graduated in December 2003 and is working in a public health related field. The next class of graduates (n=14) is expected in May 2004.

Indicator: Percentage of all enrolled students who are African-American, Latino, or Asian-American

Table 4.2 and Figure 4.2 show the percentage of COPH students enrolled by race/ethnicity and compares the percentages to the state of Arkansas. The COPH has been quite successful in recruiting a diverse population of students over the past two years.

Table 4.2 Distribution of COPH Students by Race/Ethnicity

	Arkansas	Students Enrolled by Quarter					
	Population	Spring '02	Summer '02	Fall '02-03	Spring '03	Summer '03	Fall '03-04
White	78%	50%	47%	59%	57%	52%	60%
Black	16	41	47	34	36	41	32
Asian, other	3	7	6	5	5	6	7
Latino	4	2	0	2	2	1	1

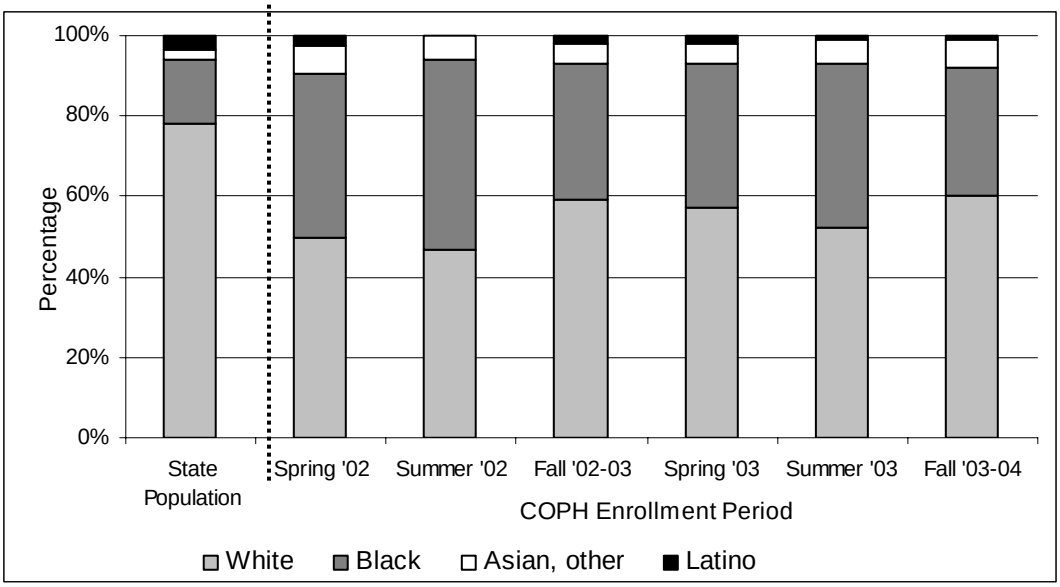


Figure 4.2 Student Distribution by Race/Ethnicity

Obtain federal and philanthropic funding.

Indicator: Number of grants submitted for funding by all COPH faculty

Indicator: Amount of grant funds awarded for all COPH faculty

This goal was to have faculty in the COPH pursue funding opportunities to bring new research to the college. Table 4.3 shows the number of grants that were submitted each six-month period from the second half of 2001 through December 2003. In addition, it indicates how many of these grants were successfully funded and which grants are still pending as of December 2003. Overall, COPH has been quite successful in obtaining funding, with at least an average funding rate of 83 percent per funding period. Table 4.4 shows the funding amounts that COPH has received in total and for research. Virtually all of the funding obtained has been for the conduct of research.

Table 4.3 Grants Submitted by COPH Faculty

Six-month Period	Number Submitted	Number Funded	Number Pending	Percentage Funded
Jul-Dec 2001	2	2	0	100%
Jan-Jun 2002	1	1	0	100
Jul-Dec 2002	11	11	0	100
Jan-Jun 2003	7	6	0	86
Jul-Dec 2003	8	5	2	83

Table 4.4 Grant Amounts Funded for COPH Faculty

Six-month Period	Total Amount Funded *	Amount Funded for Research
Jul-Dec 2001	$ 79,342	$ 70,325
Jan-Jun 2002	1,097,414	1,097,414
Jul-Dec 2002	803,835	803,835
Jan-Jun 2003	1,045,450	1,045,450
Jul-Dec 2003	3,356,829	3,356,829

* Includes funding for research as well as non-research activities, such as capital improvements, training programs, or organizing conferences.

Conduct research.

Indicator: Number of peer-reviewed papers by all faculty accepted for publication

Indicator: Number of ongoing research projects conducted by all faculty

The successful conduct of research was measured by documenting the number of research projects conducted by the COPH faculty and the number of peer-reviewed publications that are generated from their research. Tables 4.5 and 4.6 show that COPH has increased both the number of publications and research projects each year. The COPH went from 3 ongoing research projects in 2002 to 20 projects in 2003, and publications nearly tripled during that time.

Table 4.5 Papers Published by COPH Faculty

Year	Number of Publications	Number per FTE
2001	0	0
2002	12	.8
2003	32	1.2

Table 4.6 Ongoing Research Projects by COPH Faculty

Six-month Period	Ongoing Research Projects
Jan-Jun 2002	3
Jul-Dec 2002	12
Jan-Jun 2003	19
Jul-Dec 2003	20

Serve as a [policy and advisory] resource to the General Assembly, the governor, state agencies, communities.

Indicator: Number of service activities to the state

The COPH has engaged in a number of activities that have supported the General Assembly, state agencies, and organizations in the community. Table 4.7 and Figure 4.3 indicate that COPH has substantially increased their service since its inception in 2001, moving from 16 to 103 talks and lectures per six-month period. The COPH has also conducted several legislative briefings and special projects during this time period.

Table 4.7 Service Activities by COPH Faculty to the State

Six-month Period	Talks & lectures	Legislative briefings	Special projects
Jul-Dec 2001	16	6	12
Jan-Jun 2002	25	6	4
Jul-Dec 2002	59	3	4
Jan-Jun 2003	85	4	6
Jul-Dec 2003	103	4	4

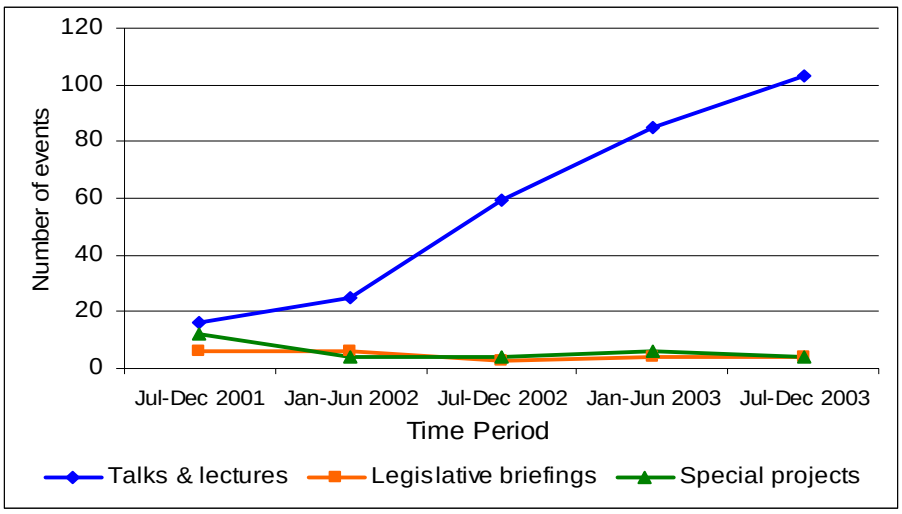


Figure 4.3 Service Activity Trends

ANALYSIS OF SPENDING TRENDS

Act 1576 of 2001 and H.B. 1717 of 2003 appropriated funds for the COPH for the first two biennium periods of the Tobacco Settlement Fund Allocation. Table 4.8 summarizes these appropriations by fiscal year[5].

Table 4.8 Tobacco Settlement Funds Appropriated to the College of Public Health, by Fiscal Year

	First Biennium		Second Biennium	
Item	2002	2003	2004	2005
(1) Regular salaries	$ 799,215	$ 2,386,552	$2,500,613	$2,500,613
(2) Personal service matching (PSM)	199,804	596,639	484,316	484,316
(3) Maintenance & operation (M&O)				
(A) Operations	104,492	136,784	196,784	196,784
(B) Travel	24,000	40,000	40,000	40,000
(C) Professional fees	0	0	100,000	100,000
(D) Capacity outlay	154,515	165,000	165,000	165,000
(E) Data processing	0	0	0	0
Annual Total	$1,282,026	$3,324,975	$3,486,713	$3,486,713
Biennium Total	$4,607,001		$6,973,426	

We performed a detailed review of the monthly expenditures of the COPH Tobacco Settlement funds. In this analysis, we did not identify any discrepancies or uncertainties in the spending. The COPH began spending the Tobacco Settlement funds during the first month of fiscal year 2002 (July 2001). The following analysis describes the COPH expenditures from July 2001 through December 2003. Because December 2003 is the middle of the first year of the second biennium, no year totals for fiscal year 2004 are presented, and it is not possible to fully detail expenditures in the second biennium.

Table 4.9 presents the total Tobacco Settlement Funds received and spent by the COPH during this time period. In all three fiscal years addressed in the analysis, the COPH received less actual funding than what was appropriated. In fiscal year 2002, it received $369,018 less than the appropriated amount, and it spent $108,976 more than what it received. This spending was done in anticipation of receipt of larger funding in fiscal year 2003. In fiscal year 2003, the COPH received $105,175 less than it was appropriated. Even after taking into account spending rolled over from fiscal year 2002 (thus being subtracted from the funds received in fiscal year 2003), we estimate that the COPH spent slightly less than the total amount of funds received for the first biennium period[6].

[5] The appropriated amounts in Table 4.8 come directly from Act 1576 and H.B. 1717 however the funding that the COPH received was less than the full amount appropriated in these bills.

[6] According to the appropriated act, programs were required to return funds unspent in the first biennium back to the commission for redistribution. Financial staff at the COPH was unable to verify whether or not some or all of these unspent funds were returned to the commission. Our estimates, based on data provided to us by the COPH, suggest that the COPH had $81,657 in unspent funds at the end of the first biennium.

Figure 4.5 highlights quarterly trends in COPH spending for fiscal years 2002, 2003 and the first two quarters of fiscal year 2004. COPH monthly expenditures for regular salaries, personal service matching, and operating expenses increased steadily from inception until the second quarter of 2003, reflecting the initial program growth during the COPH programming was put into place. Spending levels tended to level off in subsequent quarters. Expenditures for travel and capacity outlay varied from quarter to quarter, reflecting the variability of need for travel over time. In the last month of fiscal years 2002 and 2003, year-end adjustments were made due to changes in accounting codes. Thus, interpreting fourth quarter spending in these years is difficult. These year-end adjustments resulted in negative spending numbers for maintenance and operation in the forth quarter of fiscal year 2002 and resulted in lower figures for regular salaries and fringe in the forth quarter of fiscal year 2003.

Table 4.9 Tobacco Settlement Funds Received and Spent by the COPH, by fiscal Year

	2002		2003		2004	
Item	Received	Spent	Received*	Spent	Received	Spent**
(1) Regular salaries	$646,972	$ 716,442		$2,130,281	$2,133,695	$ 895,630
(2) PSM	133,845	148,836		445,223	484,316	178,135
(3) M&O						
(A) Operations	18,398	64,492		140,336	196,784	133,831
(B) Travel	24,000	3,652		24,907	40,000	27,801
(C) Professional fees	0	0		0	100,000	0
(D) Capacity outlay	89,797	88,566		288,418	100,000	22,163
(E) Data processing	0	0			0	0
Annual Total	$913,012	$1,021,988	$3,219,800	$3,029,167	$3,054,795	$1,257,560

* Data for received amounts for individual categories was unavailable in 2003

** Amounts spent in first half of fiscal year through December 31, 2003

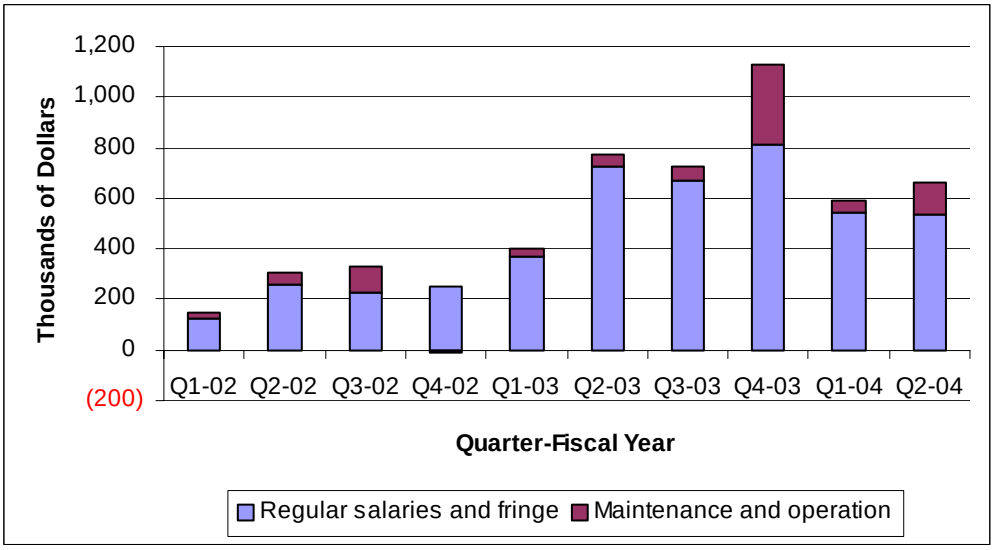
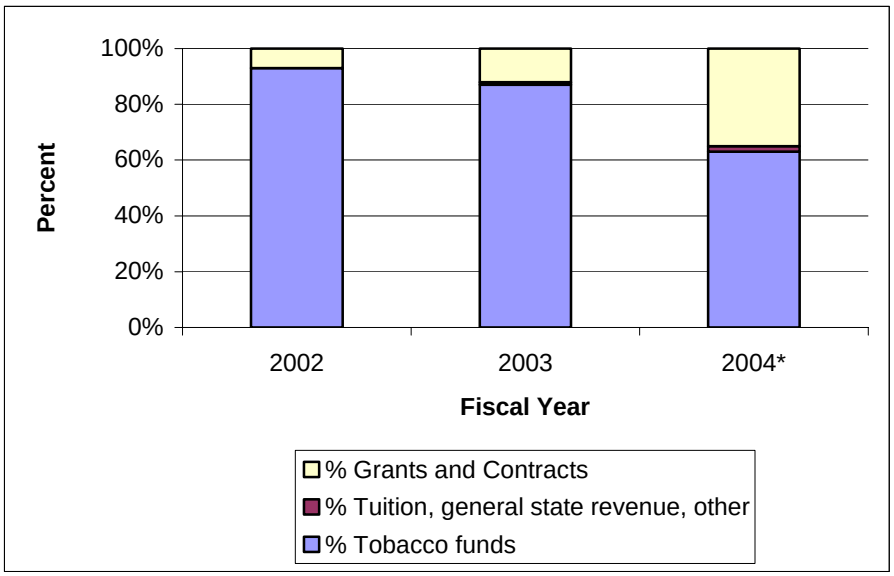


Figure 4.4 COPH Tobacco Settlement Fund Spending, by Quarter of Fiscal Years

The COPH has obtained increasing funding from sources other than the Tobacco Settlement funds. These other sources include general state revenues, tuition, and grant funding obtained by the COPH faculty. Figure 4.6 presents the percentage shares by fiscal year of the total COPH expenditures funded by the three funding categories of Tobacco Settlement, tuition and general state revenues, and grants and contracts.



* Spending through December 31, 2003

Figure 4.5 Percentage of Spending from Tobacco Settlement Funds and Other Funds by Fiscal Year

EVALUATION OF THE PROGRAM

Although the COPH was initially viewed with great skepticism (i.e., that the COPH was not a good use of the funds given the indirect nature of their likely impact) by the legislature, this perception has been reversed. Over the past two years, the COPH has worked extremely hard to meet its goals and is in compliance with the mandate in the Initiated Act. For example, they have substantially increased the number of communities in which citizens receive public health training by recruiting a student body that is very diverse in terms of age, race, gender, and interests.

As COPH has continued its formative process, policies and procedures were developed for the students (e.g., for preceptorships and integrative experiences), and handbooks with this information were distributed in March 2004. As the COPH leadership implemented the educational program, they also worked hard to begin the process of receiving accreditation in such a short time frame. Their effort is substantiated by the very positive CEPH report, which indicates that the COPH is well on its way to becoming an accredited institution.

A more formal infrastructure has been created to help students receive academic counseling, obtain the classes they need for their specialty or generalist program, and help

students obtain the preceptorship that best fits their needs and the need of the community. They have already had one student graduate in December 2003 and the next class of students (n = 14) will graduate in May 2004.

One of the charges of the COPH is to educate the public health workforce (i.e., the front-line staff of the ADH), who as a group does not have much formal training. The COPH has met this goal as approximately 20-30 percent of students in the program have been from the ADH. The COPH offers a 70 percent discount to ADH employees, but is only allowed to do so for their first three years.

The COPH has also been successful in conducting research by recruiting many new faculty and obtaining extramural funding. They have pursued many different grant opportunities over the past two years and have been extremely successful in this endeavor, obtaining 83-100 percent of the grants that they initially applied for, which is an extremely high success rate. They also continue to recruit new people with community experience to enhance the college. For example, a well-known Senior Scientist at the Centers for Disease Control will become the Chair of the Department of Health Policy and Management, effective June 1, 2004.

The COPH has also been an important resource to the General Assembly, the Governor, State Agencies, and the community. They have a strong community focus and have developed relationships with the key stakeholders in the state of Arkansas. For example, the number of talks and lectures given by the COPH has increased six fold since 2001.

In addition, the partnerships that the COPH has formed with the community are extremely positive, which is apparent from talking with the agencies and from talking with the students who are doing preceptorships in these community based organizations. Many of the organizations (e.g., La Casa, We Care) indicate that they would not be able to do the community work that they are doing if it were not for the support of the COPH and the provisions of resources to their agency.

FINDINGS AND RECOMMENDATIONS

Key Findings

The COPH has done an impressive job in establishing a public health educational institution in the two years since receiving the tobacco funds. It has become a crucial part of the UAMS system and a valuable resource to the surrounding communities. Strengths include its strong community focus, the emphasis on training the public health workforce, and the diversity of the student body. In addition, COPH is expanding its faculty, continuing to develop the curriculum, and providing opportunities for students in all of their programs. The following is a summary of our key findings:

- The COPH has worked effectively to meet its goals for its educational program, and has met the requirements of the Act.
    - Quickly built a curriculum, enrolled students, and provided them public health education
    - Providing education for the public health workforce, with approximately 20-30 percent of the public health students being ADH employees and many other students coming from other sectors of the public health workforce.

  - Increased the number of communities in which citizens receive public health training and expertise.

- The COPH has also been a resource to the General Assembly, the Governor, State Agencies, and the community.
- They have been successful in pursuing accreditation in a short time frame.
- The COPH has been successful in increasing its research dollars. Research funds have almost tripled from July 2001 to December 2003.

Recommendations

- **The COPH should continue to hire more faculty, particularly diverse faculty**

The COPH has established a minority recruitment plan and active recruitment is underway to increase the faculty numbers, including recruitment of positions in Epidemiology, one of which is to be the chair. The recent hire of a Chair for the Department of Health Policy and Management will lead to recruitment of five to seven new positions for this department. The COPH should have sufficient faculty in the next year except for the Department of Environmental and Occupational Health and the Department of Maternal and Child Health. The leadership is examining options actively to ensure that adequate resources are available to support each area of specialization.

- **The COPH needs to provide evaluation expertise to their community partners to assess the impact of the work they are doing in the community**

The COPH is doing a great deal of work in the community, but it does not yet have a mechanism in place to assess the impact of this work on a regular basis. They need to work with their community partners to help them set up a way to monitor the clientele that they serve. Assessments could be done by tracking the clients served by the different programs, so they can determine how many people they are reaching and what issues are being faced by each community (this is being done at some places). These assessments should be viewed as an integral part of their program activities, to provide regular feedback that can help them improve their outreach effectiveness.

- **The COPH should maintain the discount for ADH employees**

The 70 percent discount offered to employees of the Arkansas Department of Health, Department of Environmental Quality, and the Arkansas Minority Health Commission is extremely beneficial in helping the COPH to increase the training of Arkansas' public health workforce. This discount should be continued. Discussions with current students indicate that if they had not had the discount, it would have taken them longer to complete the program and some would not have been able to get their degree. The discount also has contributed to COPH's success in recruiting a diverse student body.

- **The COPH should provide scholarships and discounts for distance learning students**

The provision of scholarships or other financial support for distance learning would contribute to the ability of COPH to recruit more students from around the state and to increase the courses taught by distance learning. For example, some areas may not have access to a

computer or the Internet, and providing scholarships would allow students in these areas to buy laptops and pay for an Internet connection.

- **The COPH should provide assistantships to students to help support the cost of obtaining a degree**

The availability of assistantships should help increase the number of students who could attend the college by supporting some of the cost of obtaining the degree. It also would provide a way for students to meet prospective employers, which could increase the ability of students to obtain a position in a public health related field upon graduation.

Chapter 5.
Delta Area Health Education Center

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

The Tobacco Settlement Proceeds Act designates the Delta AHEC as one of the targeted needs program, and it provides for funding to the University of Arkansas Medical Sciences to create the Delta AHEC with headquarters in Helena and satellite offices in West Memphis and Lake Village. These offices are to be operational within twelve months of available appropriation. The intent is that these offices will serve the Delta region consisting of the seven counties of the Delta: Chicot, Crittenden, Desha, Lee, Monroe, Phillips, and St. Francis. The Act also states that:

> "the new AHEC shall be operated in the same fashion as other facilities in the UAMS AHEC program including training students in the field of medicine, nursing, pharmacy and various allied health professions, and offering medical residents specializing in family practice. The training shall emphasize primary care, covering general health education and basic medical care for the whole family".

The Act specifies the following goals for the Delta AHEC:

- Short-term goal – "increase the number of communities and clients served through expanded AHEC/DHEC offices"
- long-term goal – "increase the access to a primary care provider in underserved communities".

PROGRAM DIRECTION AND OPERATION

The Delta AHEC was designed to take over some of the activities formerly provided by the Delta Health Education Center (DHEC), which the state of Arkansas started in the 1970's based on the national Health Education Center model. In the 1990's the DHEC started to receive funds from the federal government (HRSA) as a Health Education and Training Center (HETC). This money was earmarked to support public health activities. With the new influx of funds from the Tobacco Settlement Proceeds Act, half of the HRSA funds provided to the DHEC were diverted to Texarkana.

Program Startup and Expansion

The Delta AHEC was established within 12 months of appropriated funds, consistent with the requirements of the Act. The current Executive Director of the Delta AHEC has served in that capacity since its inception in July 2001, and her prior position was director of the DHEC, predecessor to the AHEC. Satellite sites in Lake Village and West Memphis were established as of October 2001. In April 2002, the main office in Helena moved from a 1,200 square foot trailer to a 4,000 square foot office facility provided at no cost by the Helena Regional Medical Center. The Delta North facility is located in Crittenden Memorial Hospital, West Memphis and the Delta South facility is located in Chicot Memorial Hospital, Lake Village, both provided rent-free by the hospitals. All three regions have established advisory groups that meet regularly. The Delta AHEC North site also houses the Centers on Aging program for the Delta region.

Since the Delta AHEC's inception, over 30 staff persons were hired across the three sites, including a business manager, librarian, medical directors, health care recruiters, health educators, nurses, and administrative assistants. Most staff were already in place as staff of the Health Education Center, or were hired within the first six months. Currently, the Delta AHEC staff conduct education activities in all seven counties. A faculty member of the College of Public Health serves as the Delta AHEC local evaluator.

Staffing generally has been stable in the Helena and West Memphis offices, but the Delta AHEC South office has experienced some turnover. Two Directors for the South office have been hired and subsequently left since the AHEC's inception in July 2001. Currently, the office has an interim director, a BSN who was hired in January 2003 as a nurse recruiter and health educator. A search is underway for a permanent director.The Delta AHEC has been in the planning process almost since its inception to find a larger facility in the Helena area. As of April 2004, the Delta AHEC has secured funding for a new education facility that will include classrooms, office space, a recreation/activities room, a diabetes clinic, and a wellness center through combined efforts involving support from the Helena Health Foundation and the USDA. The AHEC plans to break ground for the new facility in the summer of 2004 with the opening scheduled for fall 2005.

Community Health Education

Since the Act's inception, this new AHEC has created a variety of health education programs to serve the needs of the Delta communities, which include:

- Asthma education training of school nurses and teachers – to help them address needs of their students who suffer from asthma includes the detrimental effects of tobacco smoke and smoking
- CPR for consumers
- Exercise programs that promote cardiovascular endurance, flexibility, muscular strength and healthy body weight
- A variety of geriatric education groups, including caregiver support groups, and the CLASSICS program focusing on health education, social activities, smoking cessation, and exercise
- Health screenings for cardiovascular disease, sickle cell, obesity, and diabetes
- Kids for Health – a weekly health education curriculum for children in K-3rd grades that meets state standards for health education and includes tobacco prevention
- Sickle Cell Project – home visits, education, screenings, and support groups for families and individuals affected by sickle cell
- Diabetes education, one-on-one clinical management, and support groups
- Adolescent health program on changing risky behaviors – promotion of abstinence from tobacco, alcohol, drugs, unhealthy sexual behaviors and other unhealthy choices
- Tobacco cessation and prevention programs– provides behavioral and nicotine replacement therapies and tobacco prevention education
- MASH and CHAMPS-high school and junior high school summer programs that educate and promote health professional careers

- Medical library services-health-related literature and internet searches, access to health journals, videos and teaching modules for health professionals, students, and consumers
- How Healthy is Your Faculty? – workplace health promotion program for regional schools that includes on-site health screenings
- How Healthy is Your Industry? – workplace health promotion program for regional businesses that includes on-site health screenings
- Health professional mentoring program – for minority and disadvantaged youth (grades 7 to 12) to foster interest in health careers and to reinforce healthy lifestyles

Health Professional Training

Local training opportunities for medical education help build additional health care capacity in the Delta and contribute to attracting future health care providers to the area. These physician training programs are provided at three levels:

- Preceptorships – 2-4 week summer training with primary care physicians for 1st and 2nd year students;
- Senior selective rotations – 4-week rotations for 4th year students; and
- OB/GYN residency rotation – 4-week rotation for residents in family practice.

The AHEC currently does not have a medical residency program, although such a program is specified in the Act and also is part of the scope of services for all AHECs in the UAMS system. A pharmacist training program is also not possible due to limited resources. However, consumer education efforts by the Delta AHEC far exceed those delivered by other AHECs in the state, suggesting that the Delta AHEC is using effectively the resources it has available.

There is general consensus among the leadership of the AHEC and the UAMS AHEC system that the existing health care infrastructure in the Helena area does not have the clinical depth to support a residency program. The Helena Regional Medical Center does not have the necessary range of specialties on its medical staff, and it recently underwent substantial restructuring to regain financial viability. There also has been some resistance from the local medical community to recruiting new physicians to the area, which are viewed as competition.

The AHEC supports health care training activities for other health professionals, such as RN to BSN and BSN to MSN programs that are offered by UAMS through the internet. Recently, they have also started support for licensed practical nurse (LPN) and certified nursing assistant (CNA) programs. Students and professionals use the AHEC interactive video training system that serves the Delta region, which allows them to get training without having to leave their communities.

The AHEC provides continuing education opportunities for physicians, nurses, pharmacists, social workers, physical therapists, and nursing assistants. It also has initiated telemedicine opportunities that will increase access over time. The Delta AHEC library in Helena holds textbooks for nurse education and also connects with the UAMS library databases to provide access to academic journals and publications. The local community college in Phillips country relies on this library to maintain its accreditation in nursing education.

The Delta AHEC engages in recruitment and retention efforts for physicians and nurses. It also recruits for the MATCH program that is designed to provide half of medical school tuition

by communities in exchange for the student's return to the sponsoring community upon degree completion. With the Act funds, the AHEC has increased the number of nurses and health educators to the area by recruitment of its own staff. It also has local physicians and pharmacists involved in the AHEC who serve on its advisory board.

Recruiting and maintaining health care professionals in the area is a big challenge. Once people leave the Delta for educational purposes, it becomes difficult to recruit them to return. A state scholarship program has been initiated that funds medical students from the Delta to return once they complete their medical degree. The Director reported that they had recently been successful in bringing back a family of physicians with this program.

Leveraging Additional Funding

Recognizing that the Tobacco Settlement funding alone would not be sufficient to serve all of the substantial needs in the Delta region, the AHEC has taken the initiative to obtain additional funding to build program capacity. The AHEC leadership reports that the Tobacco Settlement fund has provided the necessary infrastructure that allows the AHEC to compete for many of these new funds. As displayed in Table 5.1, the Delta AHEC has brought in funds in excess of $1 million a year from a variety of grants and donations.

Table 5.1 Additional Delta AHEC Funding from Grants and Donations

Type of Grant	FY 2001	FY 2002	FY 2003
Grant funding	$1,055,081	$1,068,668	$1,238,949
Donations		25,000	25,500
Shared grant funding		60,000	82,500
Total grants and donations	1,055,081	1,154,168	1,346,949

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Three indicators were selected to represent the overall progress of the Delta AHEC in meeting the goals of the initiated Act. The indicators are to: (1) Increase the number of communities and clients served through the expanded AHEC/DHEC offices, (2) develop a program to provide training for students in the fields of medicine, nursing, pharmacy, and various allied health professions, and for medical residents specializing in family practice, to achieve the full scope of operation defined for AHECs in the UAMS system; and (3) increase access to primary care providers in underserved communities. Information on the performance of the Delta AHEC in these areas was collected by the AHEC administration and provided to RAND, and this information was supplemented by review of written materials, as well as information gathered during annual site visits and quarterly progress reports.

Increase the number of communities and clients served through the expanded AHEC/DHEC offices.

Indicator: Session encounter rates per 1,000 residents, by residents in the Delta region participating in the AHEC health education and promotion programs, by type of program

The goal of this indicator was to assess the number of community members served by the Delta AHEC. Session encounter rates across the two years are presented in Table 5.2. Figure 5.1 shows the trends over time in six of the consumer health education programs demonstrating the greatest amount of activity since inception of the Act. The rates presented are calculated from counts of the number of encounters for participants in each program. For example, for someone who attended an aerobic class every week for 10 weeks, these 10 sessions are counted in the session encounter rates. Encounter rates offer the advantage of capturing the intensity of program use, which drives the staffing requirements of the program. The exception is the Kids for Health program, for which the counts are unduplicated numbers of participants. Students register and participate in weekly sessions of this program over the course of the school year.

Table 5.2 Session encounter Rates for Delta AHEC Programs

	Number of program encounters per 1,000 Delta residents				
	Jul-Dec 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Asthma Education	1.0	2.3	4.3	0.7	0.8
CPR for Consumers	0.2	0.2	0.3	2.2	3.2
Exercise Programs	1.0	2.3	4.9	4.5	8.6
Geriatric Education Groups	0.4	0.5	0.6	3.4	5.9
Health Screenings	0.7	1.2	1.8	15.6	15.6
Kids for Health (number of participants) *	0.0	4.1	2.5	2.5	4.5
Sickle Cell Project	0.2	0.5	0.8	4.6	3.2
Diabetes Education	na	na	na	0.6	0.9
Adolescent Health Program	0.2	2.0	2.9	9.6	10.2
Tobacco Prevention and Cessation Program	2.9	4.2	5.3	1.7	16.9
MASH	0.1	0.1	0.2	0.1	0.0
CHAMPS	na	0.1	0.1	0.0	0.1
Medical Library Services/Consumers	0.1	0.2	0.2	4.7	3.7
How Healthy is Your Faculty?	na	1.6	2.3	4.5	4.3
How Healthy is Your Industry?	na	0.3	0.5	0.8	0.8
Mentoring Program for Minority and Disadvantaged Youth	na	0.1	0.1	0.8	0.3
Total encounter rates	6.6	19.3	26.7	56.2	78.8

na Data not available

* The rates for Kids for Health are number of participants per 1,000 Delta residents, rather than number of encounters

We note that the rates presented are calculated based on the total population of the Delta region (i.e., 157,725 residents in 2001, 156,711 in 2002, and 155,695 in 2003). Using total population as the denominator for all programs allows us to sum the encounter rates across programs to obtain a measure of total activity rates (see final row in the table). However, many services target a subgroup of Delta residents (e.g., Adolescent Health programs targets youth and Geriatrics programs target older adults), and it would be informative to also calculate rates based on the targeted population group. We were unable to determine target populations for many of the programs (e.g., number of Delta residents eligible for the Sickle Cell program).

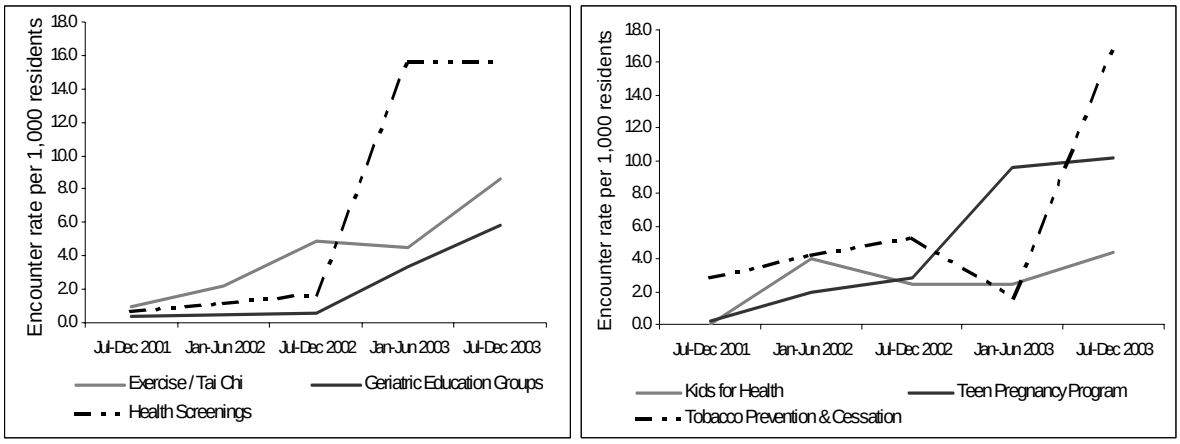


Figure 5.1 Encounter Rates for Selected Delta AHEC Programs

The new AHEC shall be operated in the same fashion as the other facilities in the UAMS AHEC program including training for students in the fields of medicine, nursing, pharmacy, and various allied health professions, and offering medical residents specializing in family practice. The training shall emphasize primary care, covering general health education and basic medical care for the whole family.

Indicator: Number of primary care and family practice training session encounters for students and health care personnel in the fields of medicine, nursing, pharmacy, and allied health professions and number of students supported by the AHEC

The Delta AHEC is also measuring the number of training session encounters that occur for health care students and professionals in their facilities in order to assess their compliance with the Act's intent regarding health care training. Table 5.3 shows the number of training session encounters and students involved in the different training activities.

Table 5.3 Delta AHEC Training Encounters for Health Care Students and Personnel and Number of Students Supported by the AHEC

	Number of training session encounters or students				
	Jul-Dec 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Training session encounters					
Continuing Medical Education	74	126	177	477	1,342
CPR for Health Professionals	23	21	43	49	43
Medical Library Services/Professionals	42	49	77	314	412
Total session encounters	113	195	327	840	1797
Nursing Education (number of students)					
BSN & MSN students	2	3	4	10	12
LPN training students	0	0	0	23	13
CNA training students	0	0	0	23	25
Total students participating	2	3	4	56	60

na Data not available

Increase access to a primary care provider in underserved communities.

Indicator: Number of new primary care providers recruited to serve the Delta region including physicians, nurse practitioners, nurses, medical students, pharmacists/students, and allied health professions

Table 5.4 shows the number of health care professionals recruited to the area and medical student training programs as organized by the Delta AHEC. In late 2003, the Delta AHEC initiated telemedicine opportunities to Delta residents. This program involves client interactions with physicians at UAMS via interactive video. The Delta AHEC staff plans to continue to grow telemedicine opportunities for Delta residents in 2004.

Table 5.4 Primary Care Providers Recruited by the Delta AHEC

	Number of primary care providers recruited				
	Jul-Dec 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Recruitment for:					
Allied health professionals	na	3	4	0	0
Nurses	na	12	16	3	0
Pharmacists	na	0	0	0	0
Recruitment for physicians:					
MATCH	na	0	5	0	0
Preceptorships	na	2	3	3	10
Rural loans	na	0	0	0	4
Senior rotations	na	1	2	5	6
Residents in OB/gynecology rotations	na	2	2	2	10
Total number of providers recruited	na	20	32	13	30
Telemedicine encounters by video	na	na	na	na	4

na Data not available

ANALYSIS OF SPENDING TRENDS

Act 1580 of 2001 and H.B. 1717 of 2003 appropriated funds for the Delta AHEC for the first two biennium periods of the Tobacco Settlement (TS) Fund Allocation. Table 5.5 details the appropriations by fiscal year.

Table 5.5 Tobacco Settlement Funds Appropriated to the Delta AHEC, by Fiscal Year

Item	First Biennium 2002	2003	Second Biennium 2004	2005
(1) Regular salaries	$587,500	$1,273,000	$1,347,405	$1,347,405
(2) Personal service matching (PSM)	117,500	254,600	245,270	245,270
(3) Maintenance & operation (M&O)				
(A) Operations	120,000	340,800	340,800	340,800
(B) Travel	11,000	41,000	41,000	41,000
(C) Professional fees	0	0	0	0
(D) Capacity outlay	33,000	350,000	350,000	350,000
(E) Data processing	0	0	0	0
Annual Total	869,000	2,259,400	2,324,475	2,324,475
Biennium Total	3,128,400		4,648,950	

The Delta AHEC has been challenged by the constraints posed by the tobacco settlement appropriations, which establishes a maximum amount of funds that can be spent in each category and prohibits switching funds across categories without special permission. For example, the $41,000 appropriated for travel each year (except FY 2002) is to be used only for out-of-state travel, which the AHEC does not need. The AHEC staff was not aware of this definition when they provided the AHEC budget for the initial appropriation. They thought they could charge local travel to this category, which is the travel funding they need to have. Also, the AHEC Director noted that they were unable to purchase exercise equipment in a cost-effective manner, given that the capacity outlay funds had to be spent or lost by the end of the biennium.

The following analysis describes the expenditures at the Delta AHEC from July 2001 through December 2003. Because December 2003 is the middle of the first year of the second biennium, no year totals for fiscal year 2004 are presented and it is not possible to fully detail expenditures in the second biennium.

Table 5.6 presents the total annual Tobacco Settlement funds spent by the Delta AHEC during this time period. The Delta AHEC did not overspend its total appropriated budget in any fiscal year, but it did spend more than the appropriated amount in certain categories while spending less in other categories. The AHEC under spent its funds in regular salaries and personal service matching and over spent funds in operations, travel, and capacity outlay.

Table 5.6 Tobacco Settlement Funds Spent by the Delta AHEC, by fiscal Year

Item	2002	2003	2004*
(1) Regular salaries	$473,503	$1,057,68	$502,813
(2) PSM	98,856	228,551	113,136
(3) M&O			
(A) Operations	140,308	390,060	137,934
(B) Travel	34,750	62,629	15,769
(C) Professional fees	7,351	(7,086)	150
(D) Capacity outlay	82,853	439,488	350
(E) Data processing	0	0	0
Annual Total	837,621	2,171,323	770,152

*Funds spent for half the year through December 31, 2003

The Delta AHEC leadership reported that capacity outlay was over-spent in fiscal year 2002 because the amount appropriated for first-year capacity outlay (i.e.,$33,000) was not enough to cover expenses required to start up the program. Capacity outlay was overspent in fiscal year 2003 due to purchases of fixed equipment. The expenditures for travel were above the appropriated level for fiscal years 2002 and 2003, which reflected the initial confusion described above regarding whether in-state travel could be charged to the travel expense appropriation. Costs for operations in 2003 exceeded the level appropriated due to an internship program for medical students that cost $50,000.

The Delta AHEC began spending Tobacco Settlement funds during the first month of fiscal year 2002 (e.g., July 2001)[7]. Figure 5.2 highlights quarterly cross-sections of Delta AHEC spending for fiscal years 2002-2004. Monthly expenditures for regular salaries and personal service matching increased gradually over time until the forth quarter of fiscal year 2003 at which time they reached a plateau and decreased slightly afterwards.

Monthly expenditures for maintenance and operation also gradually increased over time, reached a peak in the fourth quarter of 2003, and then dropped precipitously in the first quarter of 2004. The reason for the drop in spending for maintenance and operation in fiscal year 2004 is that the Delta AHEC is saving capacity outlay funds to buy furniture and fixed equipment it will need when it relocates into new office space.

Neither rent nor utilities are included in the Delta AHEC's operating expenses for any of the observed months. The program has been using donated space. As discussed above, the AHEC is planning to move into rental space in the near future. The program has saved its capacity outlay money to use late in fiscal year 2004 to pay for furniture and other fixed equipment that will be needed for the new facility. Therefore there was low spending for capacity outlay in the first quarter of 2004 and no spending for it in the second quarter.

Accounting system coding changes resulted in negative values for some categories during certain months included in the analysis. There were four months over the course of the two and a half years examined in this analysis in which these negative numbers totaled more than $5,000. These negative expenditures resulted in the negative value observed in the first quarter of fiscal year 2003 of Figure 5.2.

The Delta AHEC has three streams of funding: Tobacco Settlement funds, grants and donations, and general state funds. Figure 5.3 shows the percentage of Delta AHEC spending attributed to each of these funds. Tobacco Settlement funds account for the largest amount of spending, representing 55-60 percent of the AHEC's overall spending. The AHEC has used these funds to leverage an increasing amount of funding from grants and donations. The percentage of the Delta AHEC's spending from grants and donations increased from 38 percent in fiscal year 2002 to 45 percent in the first half of fiscal year 2004.

[7] The Delta AHEC did not have their accounting system up and running until August 2001. Thus the data for August 2001 contained data from July and August 2001.

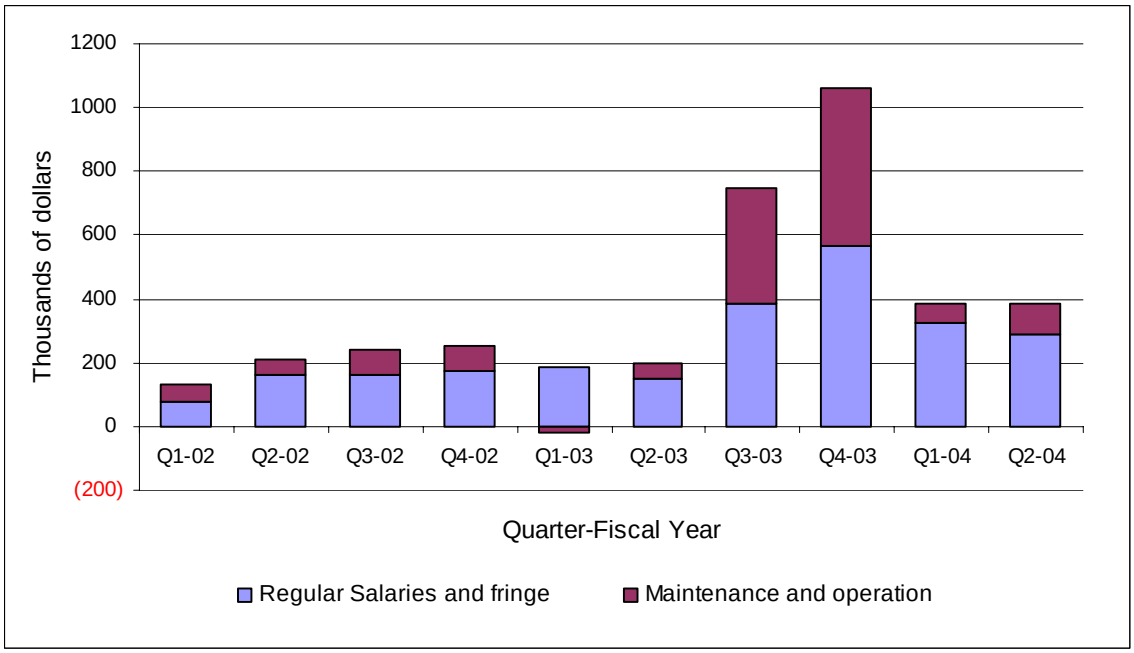
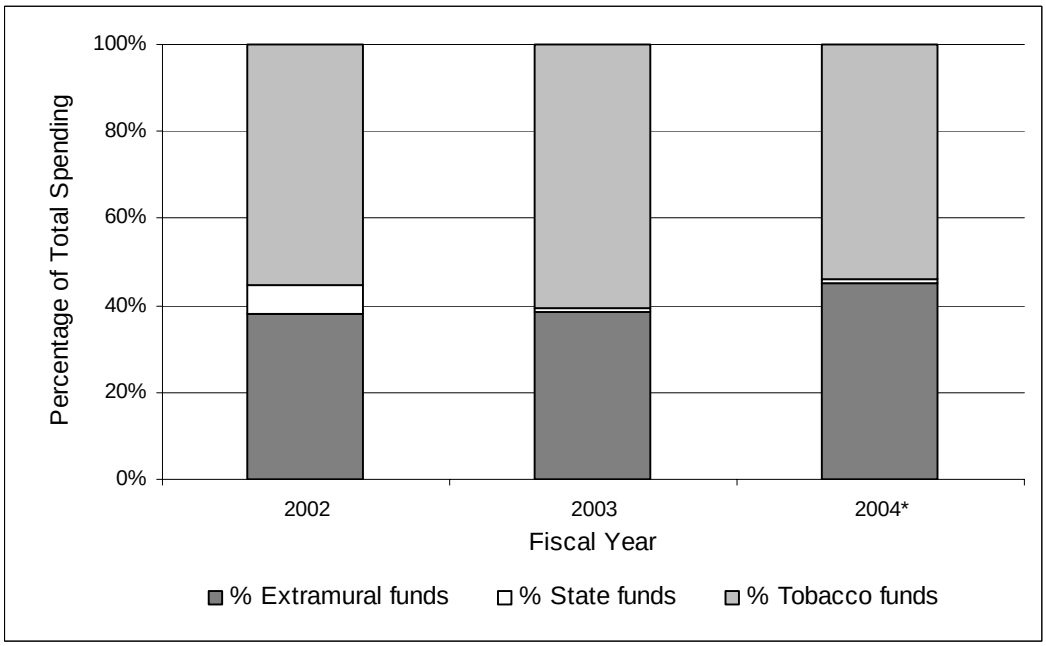


Figure 5.2 Delta AHEC Tobacco Settlement Fund Spending, by Quarter of Fiscal Years



*Spending through December 31, 2003

Figure 5.3 Percentage of Delta AHEC Budget from Tobacco Settlement Funds, by Fiscal Year

EVALUATION OF THE PROGRAM

The Tobacco Settlement funds provided to the newly created Delta AHEC expanded its financial resources substantially beyond the funding that supported its predecessor, the DHEC.

With this funding came a substantial challenge to quickly develop and expand the health education programming provided to the Delta region, both in community and health professional training and in the geographic areas covered by AHEC offices. As reflected in the increase in available programs and growth in use rates for those programs, the AHEC has made significant progress toward meeting the goals set out for it in the Act. Operationally, the first order of business was to expand the AHEC staffing, on which subsequent program development depended. A growing staff began quickly to expand programming, and to establish the two satellite offices in the north and south parts of the Delta.

The larger program required more space in Helena, and a larger facility was occupied as of April 2002. Yet the programming continued to expand quickly, so that it now exceeds the capacity of that new space. Plans currently are under way for establishment of a new education facility and wellness center in Helena in which the AHEC will have not only a larger facility but also access to organizations providing related services. In planning for this new facility, it will be important to consider ways to facilitate access to the facility, such as regular transportation from local city hubs or main routes (West Helena, Helena), and to ensure that residents are aware that the facility is open to everyone, not just those with a referral from a physician or hospital.

Session encounter rates for community health education activities show the steady growth in these activities over time, especially for tobacco related issues, such as cessation and prevention activities. The education activities span the entire seven county region, denoting the effort to bring health education opportunities to the Delta communities. In interviews during our site visits, stakeholders reported that the programs provided by the AHEC are culturally sensitive. The AHEC was recently recognized by the American Diabetes Association (ADA) for meeting the national standards for excellence in diabetes education, ensuring the quality of their diabetes health education programming.

AHEC leadership and staff report that increased staffing is needed to be able to serve more community residents. One of its successes has been the leveraging of the Tobacco Settlement funds to obtain additional financial support for program growth, although leveraging of funds was not part of its mandate in the Act.

The Delta AHEC has encountered a variety of barriers in establishing services across the region, which will continue to be challenges as programming expands. Many of the staff work offsite, and they need to find local facilities so they can bring the AHEC programs to a broader range of communities across the region, but they have had some difficulty finding facility space in some communities. The AHEC is offering these health services free of charge to community residents and is making efforts to reach African American and other racial minority groups. However, some churches in these communities have asked the AHEC to pay fees for use of their facilities for its service programs, which the AHEC cannot afford on its limited budget. This financial barrier is deterring the AHEC from reaching the populations in greatest need of services. Improvements in the level of collaboration and understanding among the different organizations serving the Delta region is needed to help improve the health of the region's residents.

Many times available facilities are not large enough, liability issues arise, or there just are not enough staff to provide the number of classes needed in the community. For example, the local hospital in Helena had been refusing to allow CHAMPS and MASH students into their

facility due to HIPPA requirements. More recently the hospital leadership has sought to accommodate the AHEC programs and will allow students into the hospital this year.

For the Delta AHEC health professional training, the number of training sessions for continuing medical education continues to grow, and the number of students pursuing nursing degrees also has grown. Students cited the AHEC library as a critical resource for them to obtain their degree because they couldn't afford to purchase the textbooks on their own. Community members and health care professionals reported that the educational services provided by the Delta AHEC help retain health care professionals in the area. Continued training, such as for the Diabetes Education recognition, demonstrates AHEC support and staff motivation to serve the population in need.

The AHEC does not provide a medical residency program, for reasons described above, but we learned in our April 2004 site visit that prospects have improved recently for eventual establishment of a program. The Helena Regional Medical Center reported to the AHEC in April that it is now in a position to move forward with recruiting additional physicians for its medical staff with hopes for eventual establishment of medical residency training.

Increasing access to primary care providers is the most difficult challenge for the Delta AHEC. The AHEC supports two staff persons devoted to recruitment and retention activities for the region. To successfully recruit and retain physicians, however, will require the commitment of more organizations than just the Delta AHEC. The recent feedback from the local medical center also offers encouragement for future progress in physician recruitment.

FINDINGS AND RECOMMENDATIONS

The Delta AHEC has successfully established three locations to serve residents in the seven Delta counties, and program activity continued to increase since it began operation, thus meeting the short-term goal stated in the Act. However, it will take time to build the yet larger resources and program volume required to reach many of the Delta residents. The AHEC's health professional training also has progressed steadily, despite the barriers that have limited its ability thus far to establish a medical residency program.

In terms of the long-term goal of improving the health of Arkansans, chronic diseases are just symptoms of a myriad of challenges that face Arkansans living in the Delta. Education and employment opportunities are key problems in the area. The Delta AHEC is making small improvements in the health of the area population, but a more comprehensive approach will be needed to greatly improve health outcomes for the region. Further, health education effects on health status tend to be indirect and discernible only after some time has passed (e.g., reduction of diabetes complications). The following is a summary of our key findings:

- The Delta AHEC has increased substantially the number of communities and clients served through the expanded AHEC/DHEC offices. However, it will need to continue to increase other sources of funding in addition to the Tobacco Settlement funds to reach more of the Delta population with needed services.
- The Delta has a large disenfranchised population with needs for the services the AHEC provides, but this population tends to be distrustful of the health care system and has had a variety of access problems. The AHEC is working actively to reach this population, but

improved networking and collaborative efforts will be needed to overcome this barrier by developing trust and participation.

- By providing training for students in the fields of medicine, nursing, and various allied health professions, the Delta AHEC is performing many of the functions defined for the UAMS AHECs, but the Delta region does not have the medical infrastructure needed for the AHEC to operate a medical residency program or pharmacist training.
- The Delta AHEC provides recruitment and retention activities for primary care providers to help increase access, but the active support of the local hospitals and physician community will be needed to increase the number of primary care providers in the region.
- The Delta AHEC has been successful in leveraging additional funding in excess of $1 million per year to support their mission since 2001.

Recommendations

- **Build additional program capacity so that needed health education programming for the community can continue to be expanded**

After three years of operation with Tobacco Settlement fund support, the Delta AHEC needs to find new ways to enable it to continue to grow the program activities so that it can better reach the still unmet needs in the community. A major constraint on its growth has been the limited size of its current building, and the pending move into the larger wellness center facility will be an important contribution to this aspect of capacity. The other aspect, of course, is money. Once the capital needs for the new facility have been funded, the AHEC will be able to reduce its budgeted capacity outlays and put more of its Tobacco Settlement funding appropriation into staffing and operations, which will support additional program growth. The AHEC also has done a commendable job of obtaining additional funding in the past few years, which it should continue to pursue in the future.

- **Expand collaboration efforts to reach disenfranchised populations**

Because of cultural barriers and distrust of the health care system by some racial minority groups, the Delta AHEC has to work harder to reach these populations in the Delta region. African Americans are one of the key populations for the Delta AHEC. Increased involvement of the African American community is needed to improve understanding and access, and to provide programming that is responsive to their needs. Tracking of program participation by race (as stated in the recommendation below) would provide feedback on program efforts and help guide the AHEC to improve access to its services for racial minorities.

- **Consider new methods to increase funding for and access to community health education services**

The AHEC currently is reaching the people who are the easiest to reach, and there are many barriers to reaching the poorest population and minority populations that will need to be managed, including transportation, culture and literacy. We learned from stakeholders that the AHEC could improve its marketing and outreach, especially among the African-American population. The addition of other sources of financial support would enable the AHEC to develop additional program capacity, especially in the satellite field offices. Staff indicated there

was potential to bring in additional funds from local sources, but that they would need to have specific budgets for individual programs as well as budget training for front line staff.

- **As additional health education programs are developed, focus on programs that have demonstrated effectiveness.**

The AHEC should to continue to implement programs that are documented by health education research to be best-practice programs, such as the Kids for Health and Diabetes Education programs. Careful planning should include setting program goals and objectives, identification of the target population to be served and expected change in attitudes or behaviors to achieve, and development of a program budget. Piloting a new program at one site is an effective way to test it before deciding whether and how it should be expanded to other sites. The AHEC Director should continue to support staff training activities to enhance the ability to effectively introduce and operate best-practice programs.

Decisions on program designs should balance carefully (1) the need to tailor local programming to be responsive to the unique needs of each local area and (2) the desirability of standardizing the contents of each program regardless of where it may be provided. Standardization could enhance efficiency and free up resources for other use and thereby increase the ability to maintain quality control for the program activities.

- **Increase resources to conduct program assessment activities**

Now that programs have been established, the Delta AHEC should move towards ongoing assessment activities, including both (1) periodic assessment of program responsiveness to community needs and (2) continuous quality improvement to ensure that its programs operate effectively on a regular basis. For assessments of the health needs of Delta residents, the AHEC should be able to draw upon the expertise within the College of Public Health, as well as information it has developed on trends in health needs. Results of needs assessments should guide decisions for future programming. Continuous quality improvement activities should track routinely the performance of each program and report performance to the AHEC leadership and Board on a regular basis. Staff should be trained in quality improvement methods, including the collection and analyses of data to support the monitoring activities.

The Delta AHEC should also consider implementing a database to track client characteristics, such as race, age, educational level, and participation in the programs. Using an automated system to process enrollments would enable the AHEC to assess program participation and track trends in the populations the AHEC is serving. Setting up a database that all the AHEC staff seeing clients could use would require some programmer time and staff training, but it would allow the AHEC to manage their program more effectively. A software program, such as Microsoft ACCESS, could be used for these purposes.

- **Use the next appropriation cycle to adjust the distribution of the budget line items so that the appropriation better represents the Delta AHEC program spending needs.**

Because the initial appropriation process took place so rapidly, the AHEC was given only hours to provide a budget to the state, and as a result, its staff had little time to work through the definitions and requirements of the appropriation line items. This led to mismatches between the amounts appropriated for categories of spending and what the Delta AHEC really needed to spend, which continued into the second biennial appropriation. A good example was the

problem with in-state versus out-of-state travel expenses. The upcoming appropriation cycle offers an opportunity for the AHEC to correct remaining mismatches, and to establish an appropriation that better reflects its programming needs based on several years of operating experience.

- **Continue to engage and educate local physicians**

A few local physicians hold misperceptions that the Delta AHEC is a competitor to them. This issue is a barrier to growth of both community health education and health professional training activities. Proactive efforts will be needed by the leadership of both the AHEC and the Helena Regional Medical Center to improve perceptions and build relationships with the area physicians.

Chapter 6.
Arkansas Aging Initiative

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

As defined in the Act, the goal of the Arkansas Aging Initiative (AAI) is to:

> "establish healthcare programs statewide that offer interdisciplinary educational programs to better equip local health care professionals in preventive care, early diagnosis, and effective treatment for the elderly population and that provide access through satellite centers to dependable healthcare, education resource and support programs for the elderly."

PROGRAM DIRECTION AND OPERATION

Reflecting its mission statement, the goal of the AAI is "to develop a system of care to improve health outcomes of older Arkansans and prevent fragmentation and duplication through interdisciplinary clinical care and innovative education programs; to influence health policy at the state and national level with emphasis on care of rural older adults."

The AAI is housed in the Donald W. Reynolds Center on Aging (RCOA). In partnership with regional AHECs, the RCOA staff has established seven regional Centers on Aging (COAs) around the state. The RCOA receives the Tobacco Settlement funds, from which it allocates funding to the regional Center on Aging through the AHEC system. The AHECs are paid an administrative fee to serve in a human resources capacity, pay salaries and other relevant expenses of the regional COAs.

The COAs provide access to education resources and support programs for the elderly and their families to educate them about aging and related health problems. The centers also offer interdisciplinary education programs to better equip health care professionals in preventive care, early diagnosis, and treatment for the elderly population throughout the state. In addition, the centers are tasked with providing learning opportunities for students in the health care and social service disciplines, and to provide educational programs for the community at large. Each COA's efforts are guided by a needs assessment that was mandated by the Act and has been completed in all regions. In addition to the education component, the COAs have partnered with six local hospitals to establish senior health centers (SHC) that provide health care services to the elderly. The AAI is currently in negotiation with the seventh hospital to develop a SHC.

Program Startup and Development

Six of the funded COAs are fully operational at this time, and the education program of the seventh began in January 2003.[8] The Act stated that the program was to start within twelve months of the appropriation of funds. During initial appropriations discussion, the Reynolds Center on Aging proposed opening two Centers during year one and each subsequent year until

[8] The Schmieding Center in the Northwest region was funded by a donation from the Schmieding Foundation. This Center used the Tobacco Settlement funds to establish satellite COAs – two of the three COAs (in Bella Vista and Harrison) have been established. The third, in Mountain Home, opened in the Spring 2004.

all were open. The first two COAs to open were the Schmieding Center and the South Arkansas COA (SACOA) in El Dorado. The remaining COAs opened their doors between 2001 and 2003.

Committee Structures. Each regional COA established a steering committee to develop the regional COA. After establishment of the COA, an education advisory committee and a community advisory committee were also to be developed. The purpose of the education advisory committee is to advise the regional COA with respect to its education mission and the community advisory committee is to play a fundraising and advocacy role in the community on behalf of the COA.

All the COAs have established steering committees, with membership consisting of representatives from the RCOA, the local AHEC, regional hospital representatives, and community leaders. The status of the education advisory committees and the community advisory committees varies across centers. Because the RCOA staff placed their primary focus on operations during the developmental period, local COAs have been responsible for the development in establishing education and community advisory committees.

Local leadership has been the driving force behind the development and progress of the community advisory committees. For example, the SACOA has a remarkably active committee that has been involved in directing activities of the COA and raising funds for its support. This committee has raised approximately $800,000, and some of those funds have been earmarked to pay for a professional grant writer who will help them further leverage their Tobacco Settlement funds. In contrast, the Schmieding Center community advisory committee has not been organized. The Texarkana COA recently hosted a community reception, which included approximately 30 community leaders from which they hope to draw the membership of their community advisory committee. A chair of the committee has been named. The Jonesboro COA recently had a fundraising event at which the Director of the Reynolds Center was invited to speak. The Pine Bluff COA has established an executive committee with a named chairperson and they have begun appointing community members, The Delta COA is currently working to identify the potential membership and recruit them to the committee.

The RCOA and regional centers have been charged with leveraging the Tobacco Settlement funds to expand COA activities. AAI staff recognize that for the COAs to remain viable, they may need to turn to their community advisory committees to help raise funds. The community advisory committees are involved to varying degrees in fundraising activities. Several of the COAs have partnered with pharmaceutical companies to support educational activities and continuing education efforts (totaling over $50,000). SACOA has earmarked funds for a grant writer. There is substantial variation in the effectiveness of leveraging efforts across regions. The total amount of leveraging to date is greater than $3 million across all sites. The Reynolds Center has leveraged almost $2.4 million, with the largest funding source being the Arkansas Geriatric Education Center. The remaining funds were obtained directly by individual COAs.

Education advisory committees are intended to provide guidance to the COA education directors, and to help support an ongoing needs assessment for the community. The following COAs have established education advisory committees: SACOA, the Schmieding Center, Jonesboro COA, Forth Smith COA, Texarkana and the Pine Bluff COA. The membership of the education advisory committees is derived from community members “at large”, local community colleges, and universities and members from local organizations such as the Area Agency on

Aging. These committees are viewed as valuable partners and can also be sources for co-sponsorship of educational activities.

Organizational Structure and Relationships. Among the operational strengths of the AAI is a strong central leadership within the RCOA including the AAI director, education director, associate director, and statewide education coordinator. The central leadership team works well together and seems to have a good working relationship with the staff of the regional COAs. Another operational strength has been the identification and hiring of enthusiastic and committed regional COA staff. Although the RCOA staff are well established, they have had some challenges. In the summer 2003, the project manager left to take another job. She had been a valuable team member, working closely with the team's operations and monitoring the activities of the COAs. The RCOA staff have hired three project managers since then, each staying only a short time. The most recent incumbent in the position was hired in April 2004.

At our first site visit last year, we learned from the COA directors that they were having difficulties in defining the relationship between each regional COA and it's associated AHEC. As described above, the AHECs receive the Tobacco Settlement funding from the RCOA and handle many of the business aspects of the COAs. The perception of the COAs was been that each COA has two bosses—the RCOA and its partnered AHEC. The nature of the COA/AHEC relationship varies substantially across regions, and some AHECs appear to have had greater involvement in the development of the COAs than was originally intended when the AAI structure was designed.

In September 2003, RCOA staff met with the Chancellor of UAMS and the UAMS Vice-Chancellor in charge of the AHEC program to discuss the COA/AHEC relationships. The understanding reached from this meeting was that the AHEC is to play a purely administrative role. Each COA director is responsible for developing the COA strategic plan and developing the budget to facilitate meeting the goals in that plan. Since this September meeting, the relationships between the COAs and their "sister" AHECs have improved in most regions.

As a related issue, in the Delta and Northeast regions, the COA is perceived to be an AHEC program rather than a separate entity. In the Delta, the challenge is that the COA does not have a director, and the AHEC director is serving as acting director of the COA. The RCOA generally has control over hiring the lead staff in each region. However, the Delta AHEC director offered the services of a part-time education staff for the COA in Helena but did not involve the education director when hiring the outreach coordinator in Chicot County. In the Northeast COA (in Jonesboro), the Center Director is employed by both the COA and the AHEC, which has resulted in a blurring of the operational lines between the COA and the AHEC. The RCOA and the regional COAs are continuing to work with the AHECs to ensure that the lines of communication are open and to reduce confusion regarding AHEC and COA responsibilities.

Growth in the Regional COA Programming

The regional COAs were established faster than the schedule that had been established in the AAI strategic plan. We summarize here the progress of each Center on Aging in establishing its programming.

Schmieding Center (Northwest COA): The Schmieding Center in northwest Arkansas (in Springdale) already existed before the Tobacco Settlement funds became available, supported by

a generous endowment by the Schmieding Foundation. Its official grand opening took place in January 1999 and a new facility was dedicated in April of 2003. The Schmieding Center used the Tobacco Settlement funds to establish three satellite COAs in the northwest region, in Bella Vista, Mountain Home, and Harrison beginning in Fall 2001. The Harrison COA had its grand opening in April 2003. The Bella Vista COA also is operational, and in Fall 2003, it moved into a building that houses several other programs and services targeted to older populations. Northwest Health System (the partnering hospital) is currently preparing to locate its SHC in the same building, after which the clinical and education programs plan to hold a grand opening event in the Fall 2004. This COA has developed very strong relationships with community partners in the area. The Mountain Home site has opened a COA office on the Arkansas State University campus, and they hired a nurse educator in Spring 2004. The RCOA staff expect that the grand opening for this COA will be in Fall 2004. The local hospital in Mountain Home has not been as involved as the RCOA would have liked. It is not clear at this time if there will be a SHC located with the Mountain Home COA, however, the Director of the Schmieding Center for Senior Health and Education that oversees the outreach program plans to pursue discussion with the hospital.

South Arkansas Center on Aging (SACOA), El Dorado: The SACOA was the first new COA to be established as part of the AAI. It was established in July 2001 and had its grand opening in October 2001. While each regional COA is required to establish and convene a community advisory committee, the SACOA is one of the few that have developed and nurtured a strong committee. The SACOA community advisory committee is actively involved in all decision-making activities and has been very successful in fund-raising activities. In part, the success of this committee is due to its leadership; the committee chair is also a member of the Reynolds Center on Aging Community Advisory Committee. The SACOA has been working with RCOA and the local AHEC to develop an infrastructure of health care and social services for the elderly. They have sought funds from the Robert Wood Johnson Foundation to implement an integrated model of health care and social service delivery, with the end-goal of keeping more elderly in their homes and improving quality of life for those with functional disabilities.

In collaboration with the Medical Center of South Arkansas, the SACOA has also established a SHC that is located in the same building as the COA. In the six-month period between July and December 2003, the SHC had about 2,300 patient visits. The clinic staff also established a memory disorders clinic in which neurologists from UAMS come to the clinic once a month to see patients. The SHC has a twice-weekly Coumadin (anticoagulation) clinic that monitors patients closely who are on this medication.

Texarkana Regional Center on Aging (TRCOA): The TRCOA was established in June of 2002 and had its grand opening in July of 2002. At the same time, a partnership was established with CHRISTUS St. Michael, which had an already established SHC. Currently, the SHC is located off-site from the COA on the Texas side of the border and no decision has been made regarding the co-location of the COA and the SHC to the Arkansas side. In the last quarter of 2003, the SHC saw 866 patients.

Jonesboro – Center on Aging Northeast (NECOA): The NECOA was established in the spring of 2002 and had its grand opening in September 2002. The SHC in this region was also opened in September 2002 and in the last quarter 2003, the SHC had over 1,300 patient visits. This SHC also has a memory clinic, which had a total of 22 encounters in the last quarter 2003.

As a result of the growth of the NECOA and SHC, a search has been initiated to recruit another geriatrician.

Pine Bluff – South Central Center on Aging (SCCOA): A steering committee for the Pine Bluff COA was established in July 2002, and the COA occupied temporary space until the Fall of 2003. A geriatrician with almost twenty years experience in geriatric was recruited and an education director began the education program in Fall 2002. The staff hosted a joint grand opening for the COA and the SHC in October 2003.

Delta Center on Aging (Delta COA): The Delta COA was originally intended to be established in Helena, and a steering committee for the Delta COA was established in October 2001. However, a number of physicians in the local area viewed the SHC as direct competition to their own practices and refused to support its development in Helena. As a result, the local hospital in Helena decided not to partner with the COA in developing a SHC.

With such limited support in Helena, the leadership decided to move the COA and the SHC to West Memphis, where the Crittenden Memorial Hospital appeared to be more amenable to joining forces for development of a SHC. However, in the Summer 2003, the hospital leadership expressed concern that the hospital would not have the resources to establish and support a SHC, and therefore, they were cautious about developing a SHC. The AAI staff, together with the director of the Delta AHEC, decided to scale back efforts in the Delta, in part because the SHC could not be established. As a result, the Delta COA budget was reduced.

The Delta COA currently does not have a permanent director; and the AHEC director is serving as acting director. The education director is located at the West Memphis office, and she oversees two part-time educators, one in Helena and the other in Chicot County. With help from the RCOA, the Delta COA steering committee began a search for a geriatrician who would be the director of the COA and work in the SHC. In Fall 2003, a strong candidate was identified for the position but could not take the position because of visa problems. Crittenden Memorial Hospital recently made a new commitment to the development of an SHC, and space within the hospital has been identified. The COA will be co-located with the SHC. It is estimated that the SHC will open sometime in the late Summer or Fall 2004.

Fort Smith Center on Aging (Fort Smith COA): The Fort Smith COA is the newest COA to be established. Development of its central leadership has been slow. A steering committee was established in Summer 2002, and a COA director was hired in January 2004. This person serves as both the COA director and the education director. Two hospitals in the region (Sparks and St. Edwards) are working with the COA and establishing SHCs. The Sparks Senior Health Clinic had a grand opening in November 2003 and it had 153 patient encounters from November through December 2003. St. Edwards is planning to open an SHC in Waldron, which is a small town with less than 3,000 population, and it plans to open a second SHC in Fort Smith. St. Edwards has identified a geriatrician who will direct their SHC, and will serve as Associate Director of the COA. The SHC medical director at Sparks also serves as an Associate Director of the COA.

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Six indicators were selected to represent the overall progress of the Arkansas Aging Initiative. These indicators reflect the goal stated in the ACT to "increase the number of Arkansans participating in health improvement activities." The indicators reflect efforts to

increase educational encounters: 1) for seniors at each Senior Health Clinic, 2) at classes offered for community members, 3) for healthcare professionals participating in the Arkansas Geriatric Education Center programs, 4) at programs for students in health and social service disciplines, 5) for faculty from regional sites participating in post-graduate education through the Arkansas Geriatric Education Mentors Scholars program in the Arkansas Geriatric Education Center, and 6) for active paraprofessionals and paraprofessional students. A seventh "one-time" indicator was to complete community needs assessments to prioritize needs and activities of the COAs.

Increase the educational encounter rate for seniors at each Senior Health Clinics

Indicator: Educational encounter rate for seniors at each Senior Health Clinic.

During early 2004, a decision was made to track individual education encounters in the clinic. Therefore, data currently are not available for this indicator. The Reynolds Center is working with the senior health clinics affiliated with the centers on aging (COA) to generate the information.

The goal of this indicator is to ensure the educational outreach of each COA extends to the Senior Health Clinics. The COAs and the SHCs are closely tied together and collaborate to provide needed education for older individuals who are seen in the SHC. Educational encounters can be provided to the patient by the physician, nurse, nutritionist, social worker, or COA staff.

Increase the number of encounters at classes offered for community members

Indicator: Number of encounters at classes offered for community members

Table 6.1 summarizes the educational encounters for each of the COAs for six-month time intervals over the past two years. Generally, there has been an increase in the number of individuals attending classes through the COAs. In some regions, the growth between the first and second half of 2003 is quite substantial (e.g., a 350 percent increase for South Central and almost 590 percent increase for the Delta). These increases reflect the startup of these regions. In other regions, there was a slight decline in encounters between the first and second half of 2003. For the SACOA, we observe a peak in the Jan-Jun 2003 period due to a large symposium. Part of the decline in the second half of 2003 could be attributed to fewer activities occurring in November and December due to the holidays.

Table 6.1 Encounters at AAI Classes for Community Members

	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Schmieding COA				
– Harrison	**	379	547	429
– Mountain Home	**	**	**	**
– Bella Vista	**	**	538	324
SACOA	20	755	1,442	973
Texarkana	**	296	780	630
COA-NE	**	216	1,066	1,509
South Central COA	**	**	338	1,182
Delta COA	**	**	260	1,526
Fort Smith	**	**	**	563

** The program was not in operation during this time period.

Increase the number of educational encounters for health care professionals participating in the Arkansas Geriatric Education Center's programs

Indicator: Number of educational encounters for health care professionals participating in the Arkansas Geriatric Education Center's programs

Table 6.2 presents counts of educational encounters for health care professionals participating in Arkansas Geriatric Education Center (AGEC) programs. The AGEC is funded by the Health Resources and Services Administration (HRSA) and run jointly by the RCOA and Veterans Healthcare System. The AGEC sponsors geriatric focused conferences and video teleconferences throughout the year. Examples of recent educational efforts include a video teleconference on cardiovascular disease, nutrition and aging, and chronic pain management in older adults. HRSA awarded the AAI Director of Education a supplemental grant to do a series of one-day conferences on mental health issues for the elderly at each COA site. AGEC activity has been inconsistent across COAs during the past two years. In part, this inconsistency is attributed to the fact that while the GEC activities are available to the state, regions do not always host them in their regions.

Table 6.2 Encounters at Geriatric Education Center for Health Care Professionals

	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Schmieding COA				
– Harrison	**	0	0	0
– Mountain Home	**	**	**	**
– Bella Vista	**	**	27	0
SACOA	0	12	49	114
Texarkana	**	6	112	0
COA-NE	**	13	26	76
South Central COA	**	**	21	8
Delta COA	**	**	0	20
Fort Smith	**	**	**	0

** The program was not in operation during this time period.

Increase the number of educational encounters at programs for students in health and social service disciplines

Indicator: Number of educational encounters at programs for students in health and social service disciplines

Just as the COAs support education opportunities for health care professionals, they also support educational activities for students in the health and social service disciplines. Training is provided to medical students, geriatric nurse practitioners, nurses, social workers, physical therapists, pharmacists, dieticians and others. Table 6.3 summarizes the educational encounters for students across the COAs. Educational activities are inconsistent over time due to scheduling differences across regions. Large counts in Harrison and SACOA in the first half of 2003 were due to certified nurse assistant trainings that were one-time activities but had large turnouts.

Table 6.3 Encounters at AAI Education for Health and Social Service Students

	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Schmieding COA				
– Harrison	**	0	0	19
– Mountain Home	**	**	**	**
– Bella Vista	**	**	0	0
SACOA	0	38	450	122
Texarkana	**	24	19	39
COA-NE	**	0	0	30
South Central COA	**	**	12	129
Delta COA	**	**	0	2
Fort Smith	**	**	**	0

** The program was not in operation during this time period.

Increase the number of encounters for faculty from regional sites participating in post-graduate education through the Arkansas Geriatric Education Mentors Scholars program in the Arkansas Geriatric Education Center

Indicator: Number of educational encounters for faculty from regional sites participating in post-graduate education through the Arkansas Geriatric Education Center

The Arkansas Geriatric Education Mentors and Scholars (AR-GEMS) program is a continuing education program for health professionals who work with older adults and who want to improve the way they provide care. The goals of AR-GEMS include the establishment of local networks of providers, to promote interdisciplinary health care, and to establish regional training sites for health professionals, students, and faculty. AR-GEMS program requirements include different educational activities using different modes of learning: video teleconference, in-person workshops, self-instruction, and experiential practice in a geriatric setting with a mentor. These programs operate over an extended period of time, which explains the low numbers in Table 6.4. The numbers are small because they represent encounters only for staff associated with the regional COAs and SHCs.

Table 6.4 Post-Graduate Encounters at Geriatric Education Center for Regional Faculty

	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Schmieding COA				
– Harrison	**	0	0	0
– Mountain Home	**	**	**	**
– Bella Vista	**	**	0	0
SACOA	0	1	0	0
Texarkana	**	0	2	2
COA-NE	**	0	0	2
South Central COA	**	**	7	0
Delta COA	**	**	0	1
Fort Smith	**	**	**	0

** The program was not in operation during this time period.

Increase the number of educational encounters for active paraprofessionals and paraprofessional students.

Indicator: Number of educational encounters for active paraprofessionals and paraprofessional students

Table 6.5 presents counts of educational encounters for paraprofessionals and paraprofessional students. A paraprofessional is an unlicensed individual who provides "hands-on care" to clients that need moderate to maximum assistance. This care is provided under the direction of a health care professional and may be delivered in the home, hospital, community based program or long term care facility. This is a new indicator that was added in the second half of 2003, which explains the missing data for earlier time periods in some regions. In addition, not all COAs were able to collect the full six-month data for the period reported.

Table 6.5 Educational Encounters for Paraprofessionals and Paraprofessional Students

	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
Schmieding COA				
– Harrison	**	70	185	167
– Mountain Home	**	**	**	**
– Bella Vista	**	**	na	33
SACOA	na	na	135	524
Texarkana	**	na	na	na
COA-NE	**	na	na	0
South Central COA	**	**	na	156
Delta COA	**	**	34	211
Fort Smith	**	**	**	57

** The program was not in operation during this time period.

na Data were not collected for this indicator during this time period.

Note: A paraprofessional is an unlicensed individual who provides "hands on care" to clients that need moderate to maximum assistance. This care is provided under the direction of a health care professional and may be delivered in the home, hospital, community based program or long term care facility.

Conduct Needs Assessments to better understand the needs of the local community and influence local programming

To better target programming and resources to the needs of the local communities, each COA region was tasked with developing and executing a needs assessment, consisting of a survey and a series of focus groups with residents and providers. The goal of the focus groups was to gather information regarding access to and use of health care, long-term care, and social services in each region. The survey was administered to older adults and their caregivers to understand their own perceived needs and services they currently use in the local area. Each region has completed their needs assessments. The most commonly identified needs were reasonably consistent across regions, although the prioritized lists were not identical. Transportation was consistently listed in each region’s needs assessment as an issue to be

addressed. Most regions also included the affordability of and access to health care and social services, education, and the presence of a resource center

ANALYSIS OF SPENDING TRENDS

Funds were appropriated for the Arkansas Aging Initiative (AAI) by Act 1575 of 2001 and H.B. 1717 of 2003 for the first two biennia of the Tobacco Settlement Fund Allocation. Table 6.6 details the appropriations by fiscal year.

Table 6.6 Tobacco Settlement Funds Appropriated to Arkansas Aging Initiative, by Fiscal Year

	First Biennium		Second Biennium	
Appropriation Item	2002	2003	2004	2005
(1) Regular salaries	$ 491,040	$1,222,071	$1,278,528	$1,278,527
(2) Personal service matching	92,408	224,114	232,733	232,733
(3) Maintenance & operation				
(A) Operating expense	59,000	198,515	198,525	198,525
(B) Conference & travel	25,000	56,500	56,500	56,500
(C) Professional fees	0	0	0	0
(D) Capacity outlay	201,552	558,200	558,200	558,200
(E) Data processing	0	0	0	0
Annual Total	869,000	2,259,400	2,324,476	2,324,475
Biennium Total	3,128,400		4,648,951	

We discuss here the expenditures of the AAI from July 2001 through December 2003. Note that only half a year of expenditures (the first half of fiscal year 2004) is presented for the second biennium. Tables 6.7 and 6.8 present the total Tobacco Settlement funds received and spent by the AAI during this time period. The spending is reported by individual COA in Table 6.7 and by appropriation category in Table 6.8. Each year, AAI received less money than was specified in the appropriations.

Each COA was responsible for providing the evaluation team with the financial data for its operation, and our point of contact with each COA was the financial person within the partner AHEC. The RAND evaluation staff experienced challenges in obtaining and understanding the data from the COAs due to several factors. First, the COA financial data are housed in the UAMS financial system, and the AHEC financial staff varied widely in their familiarity with the UAMS financial system. In addition, each fiscal year slight changes were made in the account numbers for the Tobacco Settlement funds. As a result, some billings were made in error against the previous year's account that needed to be corrected later, which show up on the financial statements as adjustments that cannot be tracked directly to the exact timing of spending. We also encountered a major issue with respect to "trade-offs" in spending between the AHECs and COAs that occurred as a result of spending constraints created by the appropriations, which we discussed further below. These tradeoffs made it difficult to document accurately how much spending was being done for which line items.

The struggles of the COAs to conform their spending to the amounts allocated by the categories specified in the AAI appropriations became evident as we examined the COAs' data

on a monthly basis from July 2001 through December 2003, and as we discussed the spending patterns we observed with the AHEC financial staff and AAI central administration at the RCOA. The current allocation of the appropriated funds for the first two biennial periods has not met the financial needs of the COAs because of the fixed five categories. In particular, the COAs consistently reported that too much of the appropriation was allocated to capital outlays (which require a minimum expenditure of $2,500) and too little was allocated to operating expenses. The available funding for COA management and operations is further reduced by the 7.5 percent overhead paid to the AHECs. Similarly, the amounts appropriated for travel can only be used for out-of-state travel and in-state travel must be taken from management and operations. This is not consistent with the activities of the COAs, whose educators do considerable driving within their region to perform education but very little out-of-state travel. The COAs and AHECs have developed creative ways to adhere to the constraints created by the appropriations, which they refer to as "tradeoffs".[9]

"Tradeoffs" are essentially financial exchanges made between the AHEC and the COA, which vary in form, frequency, and magnitude. We provide here some examples to clarify how the tradeoffs occur. Some of the trade-offs took the form of the AHEC paying for supplies for the COA, while the COA covered a portion of the AHEC's staff salaries. For example, one AHEC waived its administrative fee and instead had the COA cover a portion of the AHEC's staff salaries. One COA handled their tradeoffs primarily during the month of June and as end of year adjustments. The need to make these tradeoffs became increasingly common as the size and activities of the COAs grew, further taxing their financial management. Even with the use of tradeoffs, however, the AAI overspent on operating costs and underspent on salaries and fringe benefits, capital and travel relative to the allocations in the appropriations.

The Tobacco Settlement funds flow from the AAI central administration housed in the RCOA to the AHECs, which perform administrative and human resources services for the COA located in their respective regions, for which they are paid 7.5 percent of the COAs' funding. During the first year of a COA's operation, the central administration allocated reduced funding to the COA to account for lower spending associated with start up of the education programs and the development of a clinic. This reduced allocation in the first year is evident in table 6.7.

Tobacco Settlement funds that were not spent in first year of the first biennium were carried over to the second year and were reallocated by the central administration to the individual COAs after the Center on Aging Directors and Education Directors prioritized a list of needs developed by central leadership and the directors. During the first biennium, these left over funds were primarily in the capital category, and these funds were used to purchase eight vans, one for each of the COAs. This expense is captured in the spending of the central administration in the fourth quarter of fiscal year 2003 (Appendix G) and is reflected in Figure 6.1. Other remaining funds were used to conduct a needs assessment and fund an evaluation of the Aging Initiative activities. Even with the efforts to use the remaining funds, the RCOA reported that it returned approximately $4,500 of the AAI funding to the general Tobacco Settlement Fund at the end of the first biennium. Based upon the reports received from the

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[9] We note that the issue of appropriations constraints and the use of tradeoffs to compensate for them are not unique to the AAI. The appropriations constraints resulted in ABI (UA-Fayetteville) returning funds, while the Delta AHEC also makes use of tradeoffs.

individual centers, we estimated the unspent amount from the first biennium to be approximately $200.

Table 6.7 Tobacco Settlement Funds Received and Spent by Each Center on Aging in the Arkansas Aging Institute, by Fiscal Year

Center on Aging	2002		2003		Biennium Difference	Returned to State	2004	
	Received	Spent	Received	Spent			Budgeted	Spent *
Central Admin.	$248,026	$233,839	$243,876	$424,175			$250,000	$127,748
Schmieding	15,000	24,136	243,876	212,912			250,000	76,818
SACOA	325,000	282,318	243,876	241,719			250,000	101,397
COA NE	75,000	74,944	243,876	243,780			250,000	110,964
TX COA	75,000	74,997	243,876	243,876			250,000	100,496
Helena	30,000	24,072	243,876	130,242			125,000	38,631
SCCOA	NA	NA	243,876	259,066			250,000	103,698
Fort Smith	NA	NA	243,876	176,822			234,152	41,701
Evaluation	NA	NA	0	71,964			140,848	4,263
Annual Total	768,026	714,306	1,951,008	2,004,553	175	4,493	2,000,000	706,199

* Spending represents the first half of the fiscal year (July through December 2003).

Table 6.8 Tobacco Settlement Funds Received and Spent by Arkansas Aging Initiative by Allocation Category and Fiscal Year *

Center on Aging	2002		2003		Biennium Difference	Returned to State	2004	
	Received	Spent	Received	Spent			Received	Spent
Regular salaries, matching	525,000	517,196	1,445,993	1,323,226	130,571		1,494,985	610,518
Mainten., oper.								
Oper. expense	52,144	66,930	198,515	372,314	(188,585)		198,515	78,243
Conf., travel	23,000	10,586	56,500	37,315	31,599		56,500	7,000
Prof. fees	0	0	0	0	0		0	0
Cap. outlay	167,882	119,597	250,000	271,698	26,587		250,000	10,435
Data proc.	0	0	0	0	0		0	0
Annual Total	768,026	714,306	1,951,008	2,004,553	172	4,493	2,000,000	706,199

* There are small differences between the "biennium differences" in Tables 6.7 and 6.8 due to rounding.

Figure 6.1 presents the quarterly use of AAI funds broken down by two categories of spending: salaries and fringe benefits and operations and maintenance. Appendix G contains these numbers for each individual COA with more detailed reporting by appropriations category. While the quarterly expenditures varied across COA and over time, there was a general upward

trend in spending over the course of the first biennium. This reflects the growth in startups of the COAs over time, which is reflected in staffing growth through the first quarter of fiscal year 2003. We also see the large amount of capital spending in the fourth quarter of fiscal year 2003, which was when the vans were purchased for the COAs. Spending in the first half of fiscal year 2004 dropped to levels similar to early fiscal year 2003. For the individual COAs, there were substantial fluctuations over time in the amount spent in various categories that are somewhat masked in the figure. This is due in part decisions being made by the COAs and AHECs as they sorted out how to pay the salaries of shared staff and in part to the tradeoffs being made to conform to appropriations constraints as well as a discrepancy in when money is actually spent and when in shows up on the university's financial (SAP) system.

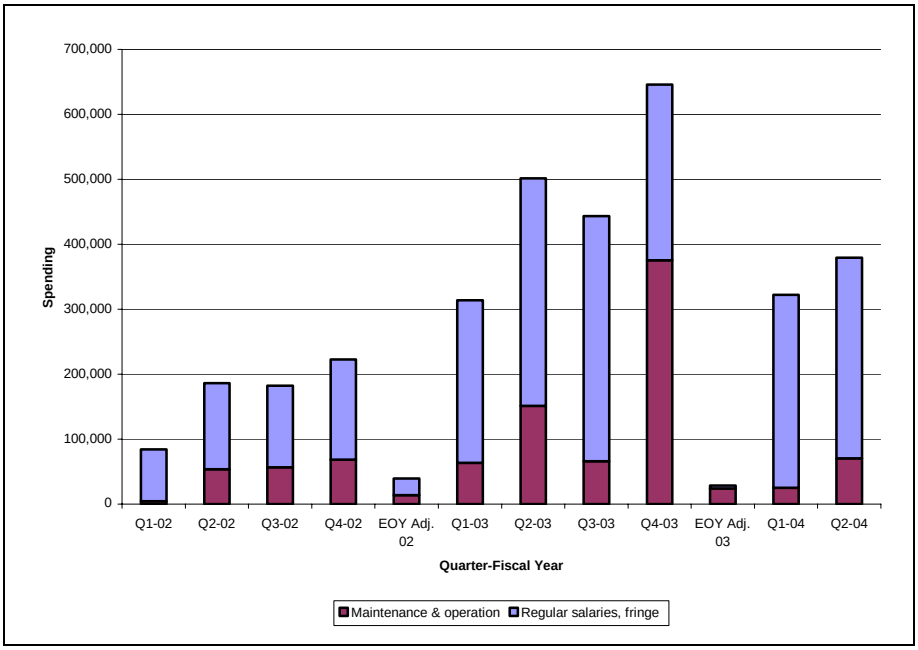

Figure 6.1 Quarterly Expenditures by Aging Initiative

EVALUATION OF THE PROGRAM

The Centers on Aging have become important resources to the communities they serve. For example, thousands of community members have participated in COA educational activities since January of 2002. They have also been successful in developing strong relationships with key community stakeholders. Each COA established a steering committee comprised of local leaders from the AHEC, the hospital, the Area Agency on Aging and others in the community. The impact of the COAs on the community has been significant, as we learned from talking with beneficiaries of the educational programs. In one conversation, an older woman said that without the COA, she would have had to put her disabled son in a facility and may have gone to a nursing home herself. The COA helped her learn about the resources in her community that she could use to support her health and to care for herself and her son. Another woman we spoke

with spoke of the importance of the educational opportunities at the COAs. She has taken classes on cooking for diabetics, which has helped her and her mother eat better and take care of their health. The programs and resources available through the COAs are having a direct impact on the health and well being of older adults.

While some regional COAs are better established than others, many of the individuals we interviewed remarked on how impressed they were that all seven COAs were established in such a short period of time. In most regions, recruiting for leadership positions had been easy. The AAI director attributes their recruiting success to the availability of Tobacco Settlement funds. Another success has been the development of interdisciplinary teams at each COA, thus putting important resources closer to the people who need them. Arkansas boasts one of the most highly ranked geriatrics programs (at the UAMS) in the country. The state has one of the highest per capita rates of geriatric care in the country, which is the core of a large and growing interdisciplinary geriatric care community that will serve the state well into the future.

One concern that exists in the AAI is a tension between directing funds toward serving older adults versus funding the central operations of the Arkansas Aging Initiative. The AAI leadership has found that the COAs need support with various tasks that the RCOA staff can provide. Interaction with the Centers is reported by the RCOA to be constant and necessary. The associate director of the AAI often gets calls to help with human resources issues and budgeting. The COAs can learn much from each other but without the central administration, it would be much less likely to occur.

FINDINGS AND RECOMMENDATIONS

Key Findings

The Arkansas Aging Initiative has done an excellent job in establishing seven centers on aging and, in most regions, senior health clinics, all of which are contributing to the health and well being of older Arkansans. The COAs have been able to create strong ties to their local communities, which will serve them well both in terms of continued support and for potential collaboration to increase outreach into the community. The staff in each region is interdisciplinary, which ensures access to the necessary expertise to provide all the necessary care and services to the local populations. The Reynolds Center on Aging still has challenges remaining to get some COAs fully operational. In some regions, the challenge has been to find a local hospital to be a viable partner in establishing a senior health clinic. In others, it has been to tease apart the roles of the COA and the AHEC and to find ways for them to work effectively together. There is still a need to find the right balance in allocating funds to administration of the program and providing services and care to the community, an issue that should decrease as the regional COAs mature.

Recommendations

- **The RCOA and the regional COAs should continue to emphasize outreach to the counties most distant from the COA facility location.**

One of the current challenges for the COAs is that residents of counties located farther from the COA facilities do not have ready access to COA services. As identified in the COA needs assessments, transportation continues to be a major need among the elderly in Arkansas

and a major constraint on their use of the COAs. It had been planned to provide transportation services for local elders, but the insurance and liability costs proved too large to make the transportation services feasible. The COAs are aware of this access need, and they are making inroads in bringing services to the more distantly located counties and populations.

- **The Central Leadership at RCOA should put more emphasis on and create more opportunities for regions to collaborate and build on the successes of the local COAs.**

The center directors and the education directors meet as a group every other month with the RCOA staff. These meetings are designed to share ideas and collaborate on projects, as well as to focus on the larger mission charged to all the COAs. The center directors appear to do a good job of sharing information and collaborating with others, but the education directors are reported to struggle more with developing a collaborative and cohesive group.

- **Given that many of the regions do not have co-located COAs and SHCs, the AAI might want to consider ways to reduce perceived barriers to services and resources.**

In our site visit to the SACOA in El Dorado, we learned that the location of the SHC relative to the COA has a significant impact on patients' use of COA resources. The COA and SHC are located in the same building, with the SHC on the first floor and the COA on the second floor. Many patients perceive that having to go upstairs to get to the COA is a barrier to using the COA services. This has important implications for future use of the COA educational resources for any regions where the COA and SHC are not adjacent to each other.

- **The AAI budgets should be reconfigured to better reflect the operational and capital needs of the COAs, and these spending needs should be reflected in the allocation of appropriated funds across categories in the next appropriation legislation.**

The allocation of Tobacco Settlement funds to categories that better reflect the AAI financial needs will enable improved management of the financial side of its operation and will eliminate the use of spending tradeoffs to compensate for constraints created by the appropriations. Virtually all the people with whom we discussed this issue were extremely uncomfortable with the tradeoffs, and they were anxious to correct the funding allocations so they could account for their spending without have to make such adjustments. The regional COAs should report monthly financial statements to the central administration of the AAI at the RCOA, which should review and reconcile the COA spending trends on a regular basis.

Chapter 7.
Minority Health Initiative

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

The Tobacco Settlement Proceeds Act created a Minority Health Initiative (MHI) to ensure the health needs of minority Arkansans were being met. The Act specified that the Arkansas Minority Health Commission (AMHC) would implement the initiative. It states that:

> "…The program should be designed to (1) increase awareness of hypertension, strokes, and other disorders disproportionately critical to minorities by utilizing different approaches that include but are not limited to the following: advertisements, distribution of educational materials and providing medications for high risk minority populations; (2) provide screening or access to screening for hypertension, strokes, and other disorders disproportionately critical to minorities but will also provide this service to any citizen within the state regardless of racial/ethnic group; (3) develop intervention strategies to decrease hypertension, strokes and other disorders noted above, as well as associated complications, including: educational programs, modification of risk factors by smoking cessation programs, weight loss, promoting healthy lifestyles, and treatment of hypertension with cost-effective, well-tolerated medications, as well as case management for patients in these programs; and (4) develop and maintain a database that will include: biographical data, screening data, costs, and outcomes".

The Act specifies the following goals for the Minority Health Initiative:

- Short-term goals – "prioritize the list of health problems and planned intervention for minority population, and increase the number of Arkansans screened and treated for tobacco-related illnesses
- Long-term goal – "reduce death/disability due to tobacco-related illnesses of Arkansans".

PROGRAM DIRECTION AND OPERATION

The Arkansas Minority Health Commission is a state commission that was formed by the Arkansas Legislature in 1991 to address health disparities among minorities in the state. The legislature identified "minorities" as Black Americans, Hispanic Americans, Asian Americans, and American Indians. Twelve commissioners direct the AMHC. Two members of the Senate and two members of the House of Representatives serve at all times. In addition, the governor appoints four members of the general public, one representing each congressional district. There are also four agency directors that serve specified terms. The legislature granted the commission authority to obtain any information relating to health issues on minorities from any state agency, state supported hospital or state medical school. Currently the Commission meets on a quarterly basis. No changes were made to the AMHC structure upon receipt of the Tobacco Settlement funding to operate the Minority Health Initiative.

The Tobacco Settlement Proceeds Act mandated that the Minority Health Initiative begin activities within 12 months of funding. A strategic plan was initially developed and approved by the commissioners in October 2001. Within six months of receipt of funding, the executive director resigned, and a new executive director was appointed to the position in March 2002.

Because of this turnover of executive directors, it was difficult for us to document MHI activities before March 2002 for this evaluation.

Program Startup Process and Development

Most staffing of the AMHC changed with the appointment of the new director. In July 2001, the AMHC approved an organizational chart, updated the mission statement and revised the strategic plan . Progress on the strategic plan was updated in July 2003.. The AMHC staff includes two administrative assistants, two document examiners, two management project analysts, and an epidemiologist. Only one of these staff (an administrative assistant) has been with the AMHC since before March 2002, the start date of the current executive director. A Medical Advisory Board was formed in early 2002, which consisted of 10 local members and 2 national members. Thus far, the Medical Advisory Board worked primarily on recruitment of a Medical Director for the Hypertension program.

Many activities specified in the Act are performed by contracted staff. The contract dates and scope of work for these contracts are summarized here.

Medical Director. A medical director was hired in July 2003 with full-time employment beginning in September 2003. The medical director holds an appointment at UAMS and is contracted to the AMHC to oversee the AMHC hypertension program, which is operated by three Community Health Centers in the Delta region also under contract to the AMHC.

Community Health Centers of Arkansas, Inc. (CHCA). The AMHC entered into a Memorandum of Agreement (MOA) with the CHCA in March 2003, which in turn has subcontracted with three community health centers (CHCs) in Chicot, Lee, and Crittenden counties to implement the AMHC Hypertension and Stroke Prevention and Education Program. The CHCA was to provide oversight to the development and implementation of the program at the three centers, including budget, screening methodology, monitoring and treatment services, data collection and reports. In July 2003, a new contract was written for the CHCA to provide on-going consultation on implementation of the Hypertension and Stroke Prevention and Education Program under the direction of the AMHC Medical Director.

The University of Arkansas Cooperative Extension Service. In August 2002, the AMHC entered into an agreement with the Cooperative Extension Service of Arkansas to implement the Dietary Intervention project in Desha County. In July 2003, this contract was renewed with expansion of services into three counties (see details below).

Researchers at the UAMS College of Public Health. In September 2002, the AMHC contracted with two physicians at the College of Public Health to conduct the Arkansas Racial and Ethnic Health Disparities Research Program. The goal of this work was to move toward reduction and elimination of racial and ethnic health disparities in Arkansas. Specific program objectives were to develop a strategic plan for the AMHC Minority Health Disparities study, conduct focus groups, analyze secondary data, interpret state and national data, and facilitate collaboration between the AMHC and other health entities in order to recommend and implement short and long-term solutions to this end. This contract was renewed in July 2003 through June 2004.

Advantage Communications, Inc. (ACI). In October 2002, the AMHC contracted with ACI to serve as the Media Consultant for AMHC Minority Health Initiative. This contract was renewed in July 2003.

Collaborative Strategies Group, LLC. A contract was initiated in January 2003 with Collaborative Strategies to develop a coordinated plan for researching grant funds. The contract specifies that the consultant is to provide expertise that will help move AMHC toward meeting the Healthy People 2010 goal of eliminating minority health disparities. The contractor has responsibility for preparing grant proposals and providing professional development expertise for the AMHC commission, staff, and contract workers. This contract was renewed in July 2003.

Increasing Awareness of Health Issues for Minorities

Through its contract with ACI, the AMHC embarked on a media campaign with the objectives to (1) promote preventive health care practices within the minority population of Arkansas; (2) promote individual family, and minority community responsibility for accepting the charge of improving the overall and physical well-being of their loved ones; (3) increase knowledge of the importance of health screenings for hypertension, diabetes, cancer, and other diseases that disproportionately impact the Arkansas minority populations; (4) increase awareness of the signs and symptoms of disease that disproportionately impact minorities; and (5) promote healthy lifestyle choices.

In January 2003, the AMHC and ACI started production of "Minority Health Today," a monthly 30-minute television program focusing on minority health issues, and programming has continued into 2004. A variety of health topics have been covered, including hypertension, diabetes, prostate cancer, breast cancer, women and heart disease, minority students in the medical field, mental health, organ and tissue donation, and nutrition.

ACI also has developed and placed TV, radio and newspaper advertisements to increase awareness of the AMHC and its activities. It has helped design the AMHC website, which provides information in English and Spanish (www.arminorityhealth.com). In October 2002, the ACI produced other marketing materials such as t-shirts, mugs, bags, water bottles, and pedometers, which were updated in 2003. The Commission distributes a host of health educational materials in pamphlet format at public health forums, health fairs, and to individuals who call the AMHC to request them.

The MHC organized a Minority Health Consortium to increase awareness of minority health issues around the state. The consortium is made up of about 30 professional stakeholders who meet at least quarterly. Over half of the consortium members serve on the AMHC Speakers Bureau. One of the consortium's goals is to make an impact on health policy, and the executive director noted that four pieces of legislation have been created as a result of their efforts, e.g., additional consideration of minority community applicants for medical school.

Services for Improving the Health Status of Minorities

Eating and Moving Program. The first service intervention implemented by the AMHC was "Eating and Moving For Life", which was kicked off on November 20, 2002 under a contract with the University of Arkansas Cooperative Extension Service in Desha county. Desha county was selected because the AMHC executive director learned about the Cooperative Extension Service worker in the area that had been assisting individuals diagnosed with diabetes. The intervention, which consists of 16 sessions, teaches people to buy, prepare, and eat low-fat meals and also to increase physical activity levels. The program goal was to enroll 100 individuals in the first year. As of October 2003, 61 participants had completed the program (per the program annual report). In July 2003, the AMHC extended the contract with the Cooperative

Extension Service to continue the program in Desha county and expand services to Sevier and Mississippi counties. Sevier County has the highest percentage of Hispanics in the state.

Recently, program developers discussed using the DASH diet as a guideline in its curriculum. A video developed by the National Institutes of Health (NIA) on physical activity is being used in the programs. Self-reported data on eating behaviors from 61 participants who completed the program in Desha Country were reported in October 2003, as shown in Table 7.1. The data indicated improvements in fruit, vegetable, dairy, and fat consumption, with no improvement in whole-grain consumption. Data on changes in blood pressure, weight, and exercise regimen were not available.

Table 7.1 Self-Reported Changes in Daily Dietary Consumption Among Eating and Moving Program Participants

	Percentage reporting	
Foods in Participants' Diets (n=61)	Baseline	Program Completion
At least one fruit a day	16%	25%
Three or more veggies a day	46	60
Six or more whole-grains a day	45	48
At least one dairy a day	25	38
Average fat consumption (based on total daily diet)	32	15

Hypertension and Stroke Prevention and Education Program. The AMHC executed initial agreements with the CHCA in early 2003 to implement the hypertension program at three Community Health Centers in Lee, Chicot, and Crittenden counties. The program was to provide case management and medication for individuals with hypertension who are unable to pay for the costs of their health care. Lee County started offering screening and treatment in April 2003, and Chicot and Crittenden Counties initiated the intervention in May 2003.

At the time these services started, the AMHC medical director had not yet been hired, so AMHC was not actively overseeing the service delivery. RAND first became aware of problems when the CHCs needed technical assistance to provide data in July 2003 for our evaluation on the number of patients screened and the number who entered the programs. RAND worked with the AMHC in July and August 2003 to design a data collection instrument that would help the AMHC determine screening and enrollment rates across the three sites. In August 2003, the AMHC provided screening and enrollment data for the three sites for the January to June period (see Table 7.6).

Since the AMHC medical director started work, she has provided more comprehensive guidance to the CHCs, and she visited the Lee and Chicot county CHCs in December 2004 and the Crittenden county CHC in January 2004. She identified several problems with implementation of the hypertension initiative that currently are being addressed. For the screening step in the program, staff were not trained to assess blood pressure correctly, proper equipment was not being used (e.g., a large adult size arm cuff or a thigh cuff), procedures to identify high blood pressure based on more than one reading were not consistently followed, individuals with high blood pressure were not given accurate information about their condition, educational materials about the disease were not always available, and intervention benefits (e.g., eligibility for subsidized treatment and medication) were not always discussed with positively

screened individuals. For the enrollment step, appropriate consent procedures were not used to collect data in the AMHC database, staff lacked measurement calibration skills, participants were not consistently given information once enrolled, and there was inconsistent follow-up for getting people enrolled and providing medications and treatment.

A number of improvements have been made by the medical director in response to these identified problems. She is implementing a certification program at the three clinics to ensure that blood pressure readings during screening and treatment are accurate, and appropriate equipment is being purchased for each site. She also is establishing performance standards so that the screening and treatment services are implemented with fidelity across the clinics, including a consent form regarding data collection. These standards are accompanied by staff training on providing accurate information to individuals about their high blood pressure and their eligibility and benefits to participation in the program. Monthly conference calls are being conducted with participating clinics so that lessons learned can be communicated across sites. The medical director is emphasizing the importance of follow-up with the clinics, given the low return rates of positively screened and initially enrolled clients, and she is making additional modifications to clinic forms and record-keeping to improve data collection and the ability to monitor intervention implementation. The medical director has also specified estimates of the proportion of the target population that is currently being served by the intervention program that will be valuable to monitoring progress across the three sites.

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Five indicators were selected to represent the overall progress of the AMHC in meeting the goals of the initiated Act. Three represented program progress: (1) increase awareness of hypertension, strokes, and other disorders disproportionately critical to minorities, (2) Provide screening or access to screening for hypertension, strokes, and other disorders for minorities, and (3) Develop intervention strategies to decrease hypertension, strokes and other disorders noted above, as well as associated complications. Two indicators were one-time outcomes: (1) develop a prioritized list of health problems for minority populations, and (2) establish and maintain a database for individuals who participate in the MHI interventions.

Increase awareness of hypertension, strokes, and other disorders disproportionately critical to minorities by utilizing different approaches that include but are not limited to the following: advertisements, distribution of educational materials and providing medications for high risk minority populations

Indicator: Number of events to increase awareness, by type of effort

The AMHC's media efforts include a television program, advertising for television, radio, and print, a website, health education and AMHC informational handouts, and AMHC marketing materials. As displayed in Table 7.2, many of the media communication events have increased since program inception.

Table 7.2 Media Communication Events for the Minority Health Initiative

	Number of events				
	Jul-Dec 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
a. Mass media placements					
- TV shows (30-minute)	0	0	0	6	26
- TV ads (30-second units)	0	0	0	0	373
- Radio ads (60-second units)	0	0	280	1,780	1,660
- Newspaper ads	0	0	16	17	7
b. Website hits					
- unique # visitors	na	na	na	325	1,038
- total # hits	na	na	na	14,305	37,873
- average # hits per visitor	na	na	na	44	37
c. Direct calls to Minority Health Commission*	na	na	35	140	71
d. Materials distributed, including collaterals, pamphlets, handouts*	0	110	226	4,668	9,076

na Data not available

* Increases in counts result partially from improvements in recordkeeping.

Provide screening or access to screening for hypertension, strokes, and other disorders disproportionately critical to minorities but will also provide this service to any citizen within the state regardless of racial/ethnic group.

Indicator: Screening rate for minority Arkansans for disorders disproportionately critical to minorities at MHI-sponsored events and recorded in the MHI database

The AMHC has monitored and organized health screens since the current executive director joined the organization. The AMHC's role in these health screening opportunities has evolved over time. Table 7.3 shows the distribution of AMHC's involvement.

Initially, the AMHC attended health fairs organized by other organizations, at which it provided health information and monitored health screens provided by those organizations. In 2002, the AMHC participated in 11 of these health fairs. The AMHC continues to participate in health fairs organized by other entities, and they often are contacted to assist in the planning of these events. Its participation increased to 22 health fairs in 2003.

In 2003, the AMHC established its own health fairs, called Public Forums. In addition to providing health screenings, the Public Forums are designed to allow local community members an opportunity to communicate their health needs to the AMHC. In 2003, the AMHC held 3 Public Forums in different areas of the state (Pulaski, Phillips, and Benton counties).

The AMHC also organizes additional health fairs in the state where AMHC recruits local health care providers to offer health screenings. The AMHC staff monitor the amount and type of screenings performed. In 2003, the AMHC organized 11 of those health fairs.

Table 7.3 Number of Health Screening Opportunities by AMHC Involvement

	Jul-Nov 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003
AMHC Public Health Forums	0	0	0	1	2
Health fair: AMHC primary organizer	0	0	0	2	9
Health fair: AMHC assisted/participated	0	7	4	11	11
Total # of health forums and health fairs	0	7	4	14	22
Percentage of events held in Little Rock	0%	17%	100%	57%	55%

Tables 7.4 and 7.5 present the number of health screenings that were reported to the AMHC at the public forums and health fairs across time by type of screening. Tables 7.4 and 7.5 .1 show the total number of screens in the left hand columns and the screening rates per one thousand minorities based on Census data in the corresponding right-hand columns (i.e., 486,950 in 2002 and 491,755 in 2003). The type of screening or health event is listed in the accompanying rows. Table 7.5 presents the number and rate of screens for those reported at events that were primarily organized by the AMHC.

In these tables, the data are presented by type of screening event. Cardiovascular screenings included measurements of blood pressure, cholesterol, or body mass index. Diabetes screens were based on blood glucose checks. Cancer screenings included breast exams, certificates to obtain mammographies, and prostate examinations. Depression screeners were self-reported survey instruments. HIV screens were blood tests. Other types of health-related activities, such as vision checks and flu shots were assessed and presented in "Other".

As of December 2003, AMHC monitored a little less than 11 health screening events per one thousand minorities (i.e., approximately 6,000 screening events) with about 3 of those screenings primarily the result of the AMHC organized efforts. A little over half of these screenings (3,201) took place in 2002 as compared to 2003 (2,948). The AMHC was responsible for a little over half the screening events in 2003 (1,592). It is important to note that these are numbers of screenings and not unduplicated counts of people. An individual may have had her blood pressure, cholesterol, and blood glucose levels checked, so the actual number of individuals screened is lower than the number of screenings.

Table 7.4 Estimated Number of Minorities Screened and Rates of Minority Arkansans Screened, by Type of Screening[++]

	Number of Minorities Screened					Screening Rate per 1,000 Minorities			
Totals	July-Dec 2001	Jan-Jun 2002 +	July-Dec 2002	Jan-Jun 2003	July-Dec 2003	Jan-Jun 2002+	July-Dec 2002	Jan-Jun 2003	July-Dec 2003
Cardiovascular*	0	885	425	431	1,404	1.8	0.9	0.9	2.9
Diabetes	0	435	79	276	482	0.9	0.2	0.6	1.0
Cancer**	0	112	0	119	45	0.2	0.0	0.2	0.1
Depression	0	0	60	40	0	0.0	0.1	0.1	0.0
HIV	0	255	0	82	0	0.5	0.0	0.2	0.0
Other***	0	0	65	69	0	0.0	0.1	0.1	0.0

Table 7.5 Estimated Number of Minorities Screened and Rates of Minority Arkansans Screened by Type of Screening at AMHC Sponsored Events[++]

	Number of Minorities Screened					Screening Rate per 1,000 Minorities			
	July-Dec 2001	Jan-Jun 2002	July-Dec 2002	Jan-Jun 2003	July-Dec 2003	Jan-Jun 2002	July-Dec 2002	Jan-Jun 2003	July-Dec 2003
Cardiovascular*	0	0	0	115	871	0.0	0.0	0.2	1.8
Diabetes	0	0	0	114	322	0.0	0.0	0.2	0.7
Cancer**	0	0	0	3	45	0.0	0.0	0.0	0.1
Depression	0	0	0	40	0	0.0	0.0	0.1	0.0
HIV	0	0	0	79	0	0.0	0.0	0.2	0.0
Other***	0	0	0	3	0	0.0	0.0	0.0	0.0

\+ Rates are high in this period because many MHC screenings were at health fairs sponsored by other organizations; rates dropped in the next period after a major sponsor discontinued its fairs.

++ Values presented in tables are estimates because they may include non-minorities and may represent duplicated counts.

* Cardiovascular includes screenings for blood pressure, cholesterol, and body mass index

** Cancer includes screenings for mammography/breast, and prostate

*** Other includes child ID, flu, vision screenings.

Develop intervention strategies to decrease hypertension, strokes and other disorders noted above, as well as associated complications, including: educational programs, modification of risk factors by smoking cessation programs, weight loss, promoting healthy lifestyles, and treatment of hypertension with cost-effective, well-tolerated medications, as well as case management for patients in these programs

Indicator: Treatment program registration rates by minority Arkansans for disorders disproportionately critical to minorities at MHI-sponsored treatment programs

To date, the AMHC has commissioned two interventions: Eating and Moving for Life and the Hypertension Initiative. As shown in Table 7.6, health screenings were performed as part of both these programs Contracted staff conducted the screenings to determine intervention program eligibility, and eligible individuals were offered an opportunity to enroll in the programs. A total of 660 hypertension screens and 58 Eating and Moving screens were conducted in the January-June 2003, which were on target for startup. The number of screenings increased to 1,613 and 118, respectively in July-December 2003. However, hypertension program treatment rates were low for two of the three sites (Lee enrolled 87, Chicot enrolled 6, and Crittenden enrolled 1).

Table 7.6 Registration Rates for Hypertension and Eating-and-Moving Programs

	Jan-Jun 2003		Jul-Dec 2003	
	Number of Participants	Rate per 1000 minorities	Number of Participants	Rate per 1000 minorities
Hypertension				
Screenings	660	1.34	1,613	3.28
Enrollments	94	0.19	270	0.55
Eating and Moving				
Screenings	58	0.12	118	0.24
Enrollments	58	0.12	108	0.22

Develop and maintain a database that will include biographical data, screening data, costs, and outcomes

As mentioned above, the Act specifies that AMHC is to maintain a database that contains biographical data, screening data, costs, and outcomes. Per this mandate, the AMHC plans to maintain a database of individuals who participate in their interventions (i.e., Eating and Moving For Life and Hypertension Initiative). Work in this area is ongoing and future improvements need to be made in order to reach this goal. The AMHC tracks the number and ethnicity of persons screened at Health Fairs and Public Forums that they participate in or organize, but individual biographical data is not being kept.

For the Eating and Moving initiative, an excel spreadsheet with date of birth, gender, race/ethnicity, blood pressure, glucose, cholesterol, height, weight, and exercise regime at program entry has been developed and implemented at all three sites. RAND provided technical assistance in the summer of 2003 to develop an expanded version of this spreadsheet so that program participation and outcomes could be tracked. Program participation will allow the AMHC to help monitor program implementation and help determine program costs. Data provided for the last reporting period, December 2003, did not include program participation and outcomes, suggesting that collection of these data has yet to be incorporated into the Eating and Moving program.

For the Hypertension initiative, the AMHC medical director reported that she has access to a database that tracks biographical, screening, and outcomes data, but cost data have yet to be incorporated. However, consent forms that were used in 2003 did not explicitly state that individual data would be collected for database purposes. As of April 2004, the AMHC is in negotiation with UAMS to create a web-based database system so that the AMHC will have real-time access to treatment data for the three participating sites. The medical director is also working on a submission to the UAMS Institutional Review Board (IRB) to conduct research using the hypertension data. These changes are necessary for the AMHC to use program participant data to monitor implementation.

Prioritize the list of health problems and planned intervention for minority population and increase the number of Arkansans screened and treated for tobacco related illnesses

The AMHC has sponsored two research efforts that generated data that could be used in a needs assessment, but neither of these data collection and research efforts culminated in an

assessment and ranking of the needs of minority populations. (Refer to discussion in the Evaluation section for further details.)

The AMHC has asked the investigators for the health disparities study to address the development of this prioritized list of health needs. In March 2004, the AMHC director sent a letter to the Arkansas Tobacco Settlement Commission stating that the prioritized list would be completed by May 31, 2004. RAND learned at the April 2004 annual site visit that a list of prioritized health issues has been developed based on the results of the Racial and Ethnic Health Disparities study, along with goals and objectives for each identified health issue. Action steps and approval by the AMHC Commissioners was sought at the Commission's May meeting in time for the May 31, 2004 deadline. A report on the Racial and Ethnic Disparities study was supplied to RAND in June, but it did not contain a prioritized list of health needs for minority Arkansans.[10]

ANALYSIS OF SPENDING TRENDS

Act 1571 of 2001 and S.B. 285 of 2003 appropriated funds for the Minority Health Commission (MHC) for the first two biennium periods of the Tobacco Settlement Fund Allocation. Table 7.7 details the appropriations by fiscal year. The AMHC financial staff reported that the MHC received slightly less than was appropriated in fiscal year 2003 and then more than was appropriated in fiscal years 2003 and 2004[11].

The following analysis describes the expenditures at the AMHC from July 2001 until December 2003. Because December 2003 is the middle of the first year of the second biennium, no year totals for fiscal year 2004 are presented and it is not possible to fully detail expenditures in the second biennium.

Table 7.7 Tobacco Settlement Funds Appropriated to the Minority Health Commission by Fiscal Year

	First Biennium		Second Biennium	
Item	2002	2003	2004	2005
(1) Regular salaries	27,855	132,482	139,369	143,132
(2) Personal service matching (PSM)	10,844	38,203	41,482	42,149
(3) Maintenance & operation (M&O)				
(A) Operations	200,000	425,000	425,000	425,000
(B) Travel	2,500	3,000	3,000	3,000
(C) Professional fees	358,077	739,508	739,508	739,508
(D) Capacity outlay	5,000	26,000	0	0
(E) Data processing	0	0	0	0
(4) Drugs and medicine	304,224	997,907	663,646	663,646
Annual Total	908,500	2,362,100	2,012,005	2,016,435
Biennium Total	3,270,600		4,028,440	

[10] We note that the AMHC released a list of priority health needs for minorities at the end of July, but this was long after the intended delivery time for this goal.

[11] In fiscal year 2002 the MHC reports receiving 801,187. In fiscal year 2003 they reported receiving 2,575,790. In fiscal year 2004 they reported receiving 2,129,100.

Table 7.8 presents the total annual Tobacco Settlement Funds spent by the AMHC during this time period. The AMHC was unable to spend a large portion of the money it was appropriated. If current trends continue, it appears the AMHC will continue to significantly under spend the funds in fiscal year 2004.

Table 7.8 Tobacco Settlement Funds Spent by the Minority Health Commission by Fiscal Year

Item	2002	2003	2004*
(1) Regular salaries	17,175	107,958	63,996
(2) PSM	13,185	35,028	23,455
(3) M&O			
(A) Operations	68,366	191,419	110,967
(B) Travel	9,978	13,256	16,236
(C) Professional fees	180,070	641,555	347,663
(D) Capacity outlay	848	9,038	0
(E) Data processing	0	0	0
(4) Drugs and medicine**	0	0	0
Annual Total	289,621	998,255	562,317

* Amounts spent through December 31, 2003

** The MHC is not breaking drugs and medicine out as a separate line item in their accounting system. Instead funds for drugs and medicine appear under the professional fees and services line item in the financial system created for the hypertension program. Nothing was spent on drugs and medicines in fiscal years 2002 and 2003. We estimated from receipts received from the MHC that $65,000-70,000 was spent on drugs and medications in 2004.

The AMHC has two separate accounting systems, one system through the state and the other an internal system. The state financial system has separate line items for all of the categories listed in Table 7.7 except for drugs and medicine, but it is unable to further disaggregate these categories. The majority of the funds received by the AMHC are spent on professional fees and services. The state system does not have any detailed information on professional fees and services. The accounting system the AMHC has set up to track these funds is inadequate to account for these fees and services. An improved internal accounting system is needed to generate the information required to fully understand how the AMHC spent the Tobacco Settlement funds it received.

Figure 7.1 highlights the spending of the MHC using data from the state's financial system for two categories: personal salaries and fringe and maintenance and operation. The AMHC had a very long start up period. Spending for regular staff to manage the program was erratic until the end of fiscal year 2003. Spending on maintenance and operation grew in later quarters, but spending levels changed substantially from quarter to quarter.

Currently, there is no accounting system in place to consistently and accurately track the spending of tobacco settlement funding. When we tried to match receipts and contracts for professional fees and services with records in the state financial system, inconsistencies were found. In the end, the best we could do was to estimate how these funds were spent. This is a serious concern because the contracts included in this line item represent a large portion of the total AMHC spending. In some instances coding errors for professional fees and services showed up in the state accounting system under an incorrect line item. In other instances

receipts for professional fees and services did not sum to the total in the state system for particular months. Because of the inconsistencies in these data, we have chosen not to present the detailed information on spending on contracts.

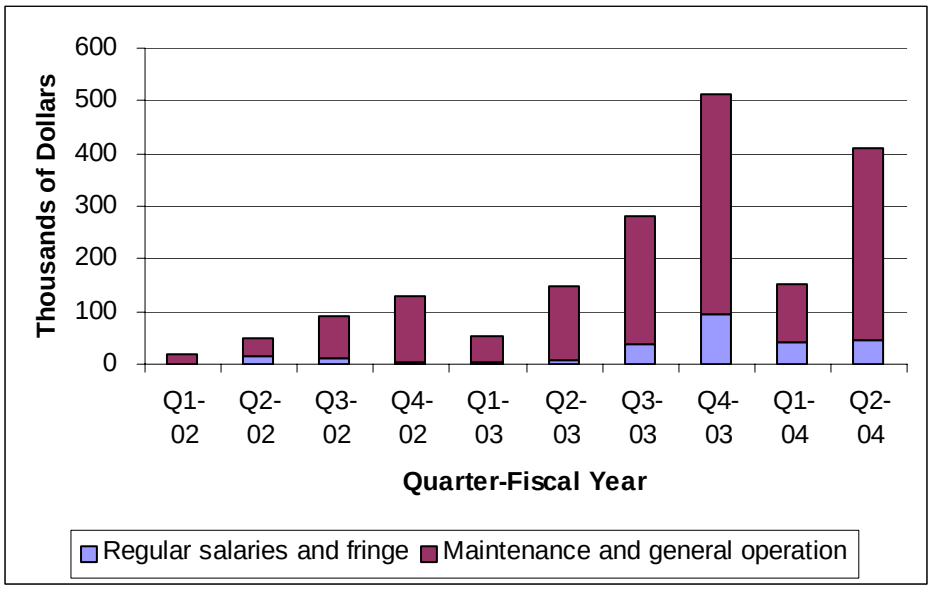

Figure 7.1 AMHC Tobacco Settlement Fund Spending, by Quarter of Fiscal Years

EVALUATION OF THE PROGRAM

Mission Statement, Strategic planning, and Staffing

The slow progress toward meeting the goals specified in the Act has partially been the result of a mismatch between the AMHC skill set and functions specified for it by the Act. The AMHC staff does not have expertise in designing and evaluating health-related media campaigns, health care screenings and interventions, or data collection for research purposes. Rather, it was initially established as an advocacy organization that focused on implementing policy changes. In addition, staff hired with Tobacco Settlement funds lack the skills needed to accomplish the goals specified in the Act. For example, an administrative assistant is responsible for monitoring the financial accounting for the commission. The epidemiologist for the AMHC lacks the appropriate training of a Masters in Epidemiology, Public Health or Biostatistics, which is needed to develop program monitoring tools and perform database management activities. Currently the epidemiologist on staff is working on a Master's degree and shows improvement in data collection activities. The AMHC also intends to gain assistance from a PhD level epidemiologist.

The recruitment of qualified contractors external to the AMHC has also been compromised by the lack of experience among AMHC staff in the substantive task areas. For example, the records that were given to us indicate that a grantwriter who received support as early as December 2002 has yet to bring in any additional funds to leverage the Tobacco Settlement funding to further support AMHC programming. Since that time, the grantwriter has requested

the following additional funding: $350,000 from HHS, $2 million from the Walton Foundation, $3 million appropriation from the US Senate, $5,000 from Blue & You, $5,000 from SBC, $2500 from Entergy, $250,000 appropriated but not funded Arkansas General Assembly, and $500,000 appropriated but not funded from the Arkansas General Assembly.

The AMHC mission statement and strategic plan specify priorities that are inconsistent with the functions it is to perform with the support of the Tobacco Settlement funding.. For example, the strategic plan includes a goal to increase the number of minority health professionals in the state, which is not stated in the Act. On the other hand, the plan does not address the development of a database, which is required by the Act and has not yet been accomplished.

Increase Awareness

The AMHC contracted with ACI to serve as its media consultant to meets the goal of increasing awareness of hypertension, strokes, and other disorders disproportionately critical to minorities. The ACI has produced a number of materials to serve this goal. The "Minority Health Today" show was developed by the AMHC Executive Director in partnership with ACI. Using video in health education efforts has been demonstrated to be effective among high-risk populations (Kalichman et al., 1999; Nielson and Sheppard, 1988; Yancey et al., 1995; Schneider et al., 2001a). However, it does not appear that research was conducted to guide the design and the content of the TV show or that sound methodology is being used to determine the effectiveness of the shows in developing knowledge and skills among the targeted populations.

The AMHC may want to consider consultation from an expert in health communications to help strengthen the material presented in the videos and other information materials. For example, framing the delivery of the health message in terms of the benefits of adopting a health behavior (gains) rather than the risks of not adopting it (losses) should be taken into account (Apanovitch et al., 2003; Rothman and Salovey, 1997; Schneider et al., 2001a; 2001b). Guidelines on how to effectively reach minorities populations using video are also available (Yancey and Walden, 1994).

As part of its contract, ACI assessed the impact of their media campaign by conducting research using convenience samples (e.g., mall intercept approaches). We have identified several areas where the ACI research methodology lacks rigor, which brings into question the validity of the results. First, the entity that conducts the campaign should not also assess its impact. This should be done by another, uninvolved entity to avoid biasing the assessment. Second, the sampling approach being used is not representative of the target populations.

Health Screenings

The AMHC currently relies on other organizations to conduct health screenings at health fairs and other events. Little change was found in the number of health screenings that occurred at health fairs and public forums over 2002 and 2003. In 2003, the AMHC's contracted staff also conducted screenings as part of the intervention program activities. If these additional screenings are included in the counts, the rates increase from 6.5 to 11 screenings per 1,000 minority population. These rates are still low in terms of reaching most minorities. In addition, many of the health fairs occur in Little Rock, especially those that the AMHC participates in but is not the primary organizer. Future efforts should attempt to expand AMHC screening activities beyond the state capital.

Interventions

Interventions to prevent and treat hypertension and diabetes through diet and exercise, clinical case management, and treatment are needed for minority populations in Arkansas. As discussed above, however, reports from the two AMHC interventions reveal they are having operational and quality problems in implementing the programs, specifically in relation to program fidelity, costs and outcomes. It is not clear that the AMHC has established well-defined strategies and goals to ensure these programs are responsive to the health needs of minorities.

Hypertension Initiative. As of December 2003, the CHCs had enrolled 271 people into the Hypertension Initiative. A recent study on the costs associated with hypertension medication estimated the average yearly cost per hypertension client as $363 in 2001 (Fischer & Avorn, 2004). Considering that the AMHC was appropriated approximately $1.2 million over a two year period for hypertension drugs and medications, and rounding up the estimated costs to $400 per individual, the CHCs should be able to treat approximately 1500 people. We estimate that the CHCs currently are spending approximately $243 per client. This figure is reasonable given that most of the clients have been enrolled for less than one year. However, the program is serving a small volume of individuals, and in the first biennium it did not use all the funds appropriated for drugs and medication. It should be a priority to first strengthen the integrity of the program and then increase the volume of people served.

Moving and Eating Program. Implementation of the Eating and Moving Program expanded from one to three counties in 2003. As this program grows, it will be important for the AMHC to monitor its progress and spending relative to the number of people served. For example, the contract with Desha county was for approximately $54,000, excluding the costs for health screenings, for 100 individuals to attend 16 one-hour sessions. This payment suggests that costs are approximately $540 per individual for the program or $34 per one-hour session. Data from similar interventions designed to increase exercise and promote healthy eating indicate costs between $20 per participant to $276 for a six-month intervention (Murray et al., 1990; Sevick et al., 2000). The AMHC will want to determine the costs associated with the Eating and Moving Program and monitor program implementation using this information.

Using the DASH diet as a guideline is a positive step in program refinement, because promoting physical exercise and weight loss in conjunction with the DASH diet has been shown to reduce blood pressure (Appel et al., 2003). Since the DASH diet emphasizes a reduction in blood pressure risk, program developers may want to specifically target the program for those with elevated blood pressure.

Behavioral interventions designed to reduce or reduce the risk of hypertension and diabetes should be based on social learning theory (Bandura, 1977) and contingency management techniques should be reviewed for applicability (Jeffrey and Christensen, 1975). Previous studies have indicated that these approaches are effective in reducing the risks associated with heart disease (Murray et al., 1990; Elder et al., 1994; Johnson and Nicklas, 1995). Content of these programs include active participation, skill-building activities, goal-setting, self-monitoring, social support, repeated contact, and trial behavior.

Database on Individuals Served by AMHC Programs

Separate databases exist for the two interventions implemented by the AMHC. Both databases contain incomplete information, which makes it difficult to maintain continuous

monitoring of the programs. The Medical Director is making progress in improving the data collected as part of the Hypertension initiative. The Eating and Moving program does not have the same level of oversight, so its database problems continue.

Prioritized List of Health Needs for Minority Populations

One of the first steps in designing a successful community-wide health promotion effort is preparation of a needs assessment. This involves examination of the resources available in the community to conduct the health promotion effort as well as understanding the behaviors that need to be targeted, such as physical fitness or healthy eating behaviors. Past research indicates that community-wide health promotion efforts that include community leadership, social networks, mass media campaigns and direct education for the general population have been successful at reducing the risk of heart disease, especially among high-risk populations (Fortmann et al., 1990).

The AMHC sponsored two research efforts that generated data that can be used to assess the needs of minority populations and develop a prioritized list of needs. However, as of June 2004, neither of these research efforts had culminated in an assessment and ranking of the needs of minority populations.

One study was a prevalence survey conducted in 2002 by the Department of Heath and co-sponsored by the AMHC. This telephone-based survey asked questions about cardiovascular and diabetes risk from the BRFSS to 5,202 residents of the seven counties in the Delta region. Reports produced in February 2003 provide comparisons across counties and with the state of Arkansas. The other study was a project called, "Comprehensive Minority Health Study" by two professors at UAMS, College of Public Health, which was designed to address minority health disparities issues. Results of this study are being disseminated widely.

At our initial site visit in April 2003, RAND inquired about the AMHC progress on establishing priority needs. We were told that a quarterly report due to the AMHC in July would help meet this goal. RAND reviewed this report, and communicated to the AMHC that it did not meet the goal stated in the Act. RAND emailed a description of a needs assessment to the AMHC epidemiologist in October 2003.. In December 2003, a conference call was held with AMHC staff, RAND staff, and the two study investigators, with the goal of clarifying what was needed to complete an effective needs assessment. At the request of the AMHC, in early January 2004, RAND sent examples of needs assessments that had been prepared by the Centers of Aging.

On June 2, 2004, the AMHC provided a report to RAND in response to our requests.. This report outlines a plan to address the health care disparities in Arkansas emphasizing policy changes to improve health care for minority populations, which the supporting research has documented to be a significant issues in the state. However, this report does not provide a needs assessment on the health care priorities of minority Arkansans that was specified in the Act (i.e., it does not provide a ranking of disease or disorder specific problems affecting minorities in the state of Arkansas).

The provision in the Act for development of a prioritized list of needs was written because the crafters of the Act wanted any additional AMHC programming to be responsive to the most important health needs of minority populations. It was generally accepted that the programs the AMHC has implemented address some of the needs of the minority communities. However, as

the AMHC continues to plan its health screening, intervention, and awareness activities, it will be important to use needs data to guide selection of any new initiatives that are undertaken. In addition, the AMHC may want to investigate how other communities have been successful in implementing community-based cardiovascular disease prevention programs in designing their own efforts to improve the health outcomes of Arkansan minorities (Shea and Basch, 1990a; 1990b; Mittelmark et al., 1993; Elder et al., 1994; Pirie et al., 1994; Weinehall et al., 2001).

FINDINGS AND RECOMMENDATIONS

Key Findings

The AMHC was previously formed to address disparities in minority health care. The Tobacco Settlement Proceeds Act specifies that the AMHC initiate health service delivery activities, such as health screens and interventions. This change has shifted the AMHC organizational mission from describing the needs of minorities and advocating for policy changes to the provision of health education and care. Progress to date indicates that the AMHC has struggled with its new focus as a result of the TS Act. The number of minorities screened and treated thus far in the AMHC programs remains low compared to the funds available as a result of the Act. As a result, a substantial portion of the AMHC's Tobacco Settlement funds was not put to work on needed services, and it had to return those funds at the end of the first biennium. Documentation of health care service delivery has also challenged staff. The following is a summary of our key findings:

- The AMHC has yet to release a prioritized list of health problems for minority populations, as specified in the Act, although it recently provided a strategic plan to address health care disparities that responds to one need that is well documented—that of inadequate access to and appropriateness of care for minorities.
- The AMHC has utilized different approaches in its media campaign to increase awareness of hypertension, strokes, and other disorders.
- The AMHC has organized screenings for hypertension, strokes, and other disorders, by working through other organizations rather than doing the screenings itself.
- The AMHC contracts for intervention programs to treat hypertension and to improve blood pressure, nutrition and physical fitness, but it has experienced low utilization and quality problems in implementing these programs, and it has used only part of the funding appropriated for support of drugs and medication.
- The AMHC has not established databases that meet the goals of the Act. The AMHC is currently working on improving the database associated with the Hypertension Initiative.

The slow progress to date on the Minority Health Initiative is not the result of a lack of need by minority Arkansans. Meeting the needs of minorities in Arkansas provides a number of challenges. Cultural barriers prevent many individuals from seeking health care. A growing Hispanic population offers a potential language barrier to accessing appropriate resources. Economic concerns may prevent some from obtaining care. Transportation also poses a large barrier in many areas of the state. Gaining compliance to medical recommendations for chronic diseases may also be difficult. Increased attention to these issues is needed to make any major improvements in the health outcomes among Arkansan minorities.

Recommendations

- **Finalize the development of the prioritized list of health needs for minority populations, drawing upon available information from past research, best practices, and lessons learned from other communities working to reach similar goals.**

Considering that the Act's focus is to serve the minority populations by screening and treating for diseases that disproportionately affect minorities, the prioritized list (i.e., needs assessment) should precede any additional efforts to screen and treat minorities. Substantial information on minority health needs is available from the College of Public Health and the ADH, but the AMHC has yet to draw upon those resources to meet this goal.

- **Improve the staff skills and capacity to carry out program activities funded by the Tobacco Settlement Funds, and to provide more oversight of contractors performing duties related to Act funding**

The skills of the AMHC staffing need to be upgraded to strengthen the AMHC ability to develop and oversee program activities implemented according to priorities stated in the Act. For example, the staff have had difficulties providing RAND with the data we needed to track progress of its programming, because they lacked the training to perform reporting tasks. In addition, because AMHC staff are not trained to conduct health screenings, the AMHC has relied on health organizations to provide them for free at health fairs and public forums. Thus far, contracted staff have successfully increased the number screened, but no incentives are provided to further enhance screening rates.

The hypertension initiative has funding issues that the AMHC has not yet addressed, which also reflect staff inexperience. The three CHCs currently receive the same amount of funds even though they are providing different volumes of screening and program services. The AMHC, in collaboration with contracted staff, should determine appropriate screening and treatment costs in advance and set payments based on program goals and incentives to reach enrollment targets. Monitoring of program costs should also be reviewed, as stated in the Funding section.

The AMHC should consider inclusion of accountability measures and performance-based language in its contracts. Currently, the contracts for implementing the interventions lack quality improvement and monitoring requirements[12]. Increased oversight and program evaluation is needed to monitor the quality of the interventions being implemented.

- **The AMHC should establish an effective financial accounting system and it should use that system to track actual expenditures, consistency of spending on each of the contracts relative to the contract terms, and how much of the Tobacco Settlement funding was returned.**

As described in the spending analysis, the AMHC has established an accounting system to track spending in greater detail than what the state system can provide. Having and using such a system is critical to ensure the integrity of the contracting process and monitor contractor performance. However, the AMHC accounting system is inadequate and has not been managed

[12] For example, the agreement with the Cooperative Extension Services was simply to implement "the Dietary Intervention project, designed to reduce the risks of Hypertension, Diabetes, and other Nutrition related chronic diseases that disproportionately affect minorities".

effectively. An improved financial accounting system is needed that could provide financial accounting capability, accompanied by training of AMHC staff in use of the system.

- **Increase resources dedicated to monitoring the performance of programs and assessing the effects of the programs on desired outcomes**

Better monitoring of program progress by qualified staff is needed, using analyses of both operational and financial performance. Until the goals of the Act are met, strategic planning activities that are not explicitly stated in the Act should be supported by the leveraging of additional funds rather than by Tobacco Settlement funds. This work should include an assessment of why the AMHC has not succeeded in obtaining additional grant funding and development of new strategies to increase funding.

The database should be a valuable tool for use in the monitoring of program performance, and the delay in developing it has lost the AMHC a needed resource. The AMHC should consider aggregating the data across the multiple activities, including screenings at health fairs and health interventions, so that monitoring of overall AMHC progress in relation to the Act can be tracked.

Chapter 8.
Arkansas Biosciences Institute

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

The Initiated Act of 2000 provides that 22.8 percent of the Tobacco Settlement Program Funds be used to support bioscience and tobacco-related research. The Act provided funding to establish the Arkansas Biosciences Institute (ABI).

The Act structured ABI to foster the conduct of research through its member institutions—the University of Arkansas for Medical Sciences (UAMS), University of Arkansas, Division of Agriculture (UA-Ag), University of Arkansas, Fayetteville (UAF), Arkansas Sate University (ASU), and Arkansas Children's Hospital (ACH). Separate Tobacco Settlement funds were appropriated to each of these five institutions. The Act charged ABI to "encourage and foster the conduct of research and pursue the following purposes:

1. to conduct agricultural research with medical implications,
2. to conduct bioengineering research focused on the expansion of genetic knowledge and new potential applications in the agricultural-medical fields,
3. to conduct tobacco-related research that focuses on the identification and applications of behavioral, diagnostic and therapeutic research addressing the high level of tobacco-related illnesses in the State of Arkansas,
4. to conduct nutritional and other research focusing on prevention or treatment of cancer, congenital or hereditary conditions or other related conditions, and
5. to conduct other research identified by the primary educational and research institutions involved in ABI…which is reasonably related, or complementary to research identified in points 1-4."

The ABI Board, which oversees ABI was created to:

"provide overall coordination of the program, develop procedures for recruitment and supervision of member institution research review panels, provide for systematic dissemination of research results to the public and the health care community, develop policies and procedures to facilitate the translation of research results into commercial alternate technological, and other applications wherever appropriate and consistent with state and federal law, and transmit….a report to the General Assembly and the Governor."

PROGRAM DIRECTION AND OPERATION

ABI is governed by a board consisting of the President of the University of Arkansas, the President of ASU, the Chancellor of UAMS, the Chancellor of UAF, the UA Vice President for Agriculture, the Director of the Arkansas Science and Technology Authority, the Director of the National Center for Toxicological Research, the President of ACH, and two individuals possessing recognized scientific, academic or business qualifications appointed by the Governor.

The mission of ABI is to improve the health of Arkansans through new and expanded agricultural and medical research initiatives. This mission statement and a strategic plan were adopted by the ABI Board in July 2002. The strategic plan included the following four goals:

(1) encourage, foster and promote agricultural and medical research in Arkansas to improve the health of Arkansans, (2) increase ABI-related collaborative research that advances science and increases national and international funding support to member institutions, (3) serve as a major training and educational resource for science education partnerships, and (4) facilitate and foster the development of scientific infrastructure by supporting ABI programs in an efficient, creative and cost-effective manner.

Program Startup Process and Development

The ABI Board held its first meeting on January 18, 2002, at which time a scientific director was named. The first director stepped down six months later, at which time a second director was named, who continues to serve in this position. A Scientific Coordinating Committee (SCC) was created to encourage collaborative research efforts among the five institutions, and its membership consists of faculty from all sites. In addition, a Science Advisory Committee (SAC) and Industry Advisory Committee (IAC) were established to serve as resources for the ABI Board and to communicate to the ABI Board potential areas of research and program development. The IAC and SAC were also created to advise ABI on technology-transfer policies and procedures in order to facilitate research results into commercial or alternate technology applications.

Each of the five institutions started with different amounts of Tobacco Settlement fund appropriations, and they utilized these resources in different ways. For example, ASU had not been a research-intensive institution, so it used the money to hire new staff and create an infrastructure to support a new research program. ASU's current focus is on hiring new faculty. In contrast, UAMS already was a strong research institution, so most of its initial funding was used to improve established core facilities, such as the micro-array facility on their campus, and to hire new researchers to conduct research.

It should be noted that although ASU has been building an entirely new program, it has made considerable progress in establishing itself as a research institution. Research infrastructure has developed successfully, including a new building, hiring of new faculty, a Vice Chancellor for Research and Academic Affairs, an Associate Vice Chancellor for Research and Technology Transfer, two deans, and an Executive Director of ABI. ASU researchers currently lead 10 funded projects, on many of which they are collaborating with UAMS and ACH. Since the new infrastructure has been in place, they have proposed a new doctoral program in the area of molecular biosciences. The current Associate Vice Chancellor for Research and Technology Transfer is leaving ASU in May 2004. They are making provisions for interim leadership until they can hire a new person.

Some of the ABI institutions had initial difficulties with faculty recruitment due to unforeseen circumstances. Specifically, at ACH, the previous president of the ACH Research Institute resigned in 2003. They currently have two candidates for this position, with hopes to make a hiring decision by summer 2004. ACH has had to focus its major recruiting efforts on the recruitment of a new president of research. Although they have been successful in hiring some new faculty, they have had some difficulty with recruiting in certain tobacco related research areas because of this issue.

As part of ABI's mission to increase ABI-related collaborative research, the ABI Board created the annual Fall Research Symposium as an opportunity for ABI-supported research to be

presented to the ABI Board, the Science and Industry Advisory Committees, and all the ABI-funded scientists. The first symposium was held on October 24, 2002 and had approximately 85 attendees. The second symposium was held on October 7, 2003 and had approximately 110 attendees. During this second symposium, the Science Advisory Committee and Industry Advisory Committee met to learn about ABI and discuss ABI accomplishments and future directions. At the conclusion of this meeting, a member of the Industry Advisory Committee drafted a document that contained nine recommendations for the ABI Board of Directors to consider. Appendix H contains these recommendations. Some examples of the recommendations include identifying strategies that encourage multi-disciplinary and multi-site collaborations, targeting and developing areas where Arkansas will be top tier in attracting and promoting the best researchers, clinicians, and teachers, and continuing to provide participating ABI scientists with opportunities to learn from outside experts. These recommendations were discussed between the SCC and the ABI board. The ABI Board currently is developing a response to these recommendations.

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Three indicators were selected to represent the overall progress of the ABI program. These indicators track progress on fulfilling the mandates in the Act for the program to (1) develop targeted research programs in each of the five areas specified by the Act, (2) encourage and foster the conduct of research through the five member institutions, and (3) provide for systematic dissemination of research results to the public and the health care community so these findings may be applied to planning, implementation, and evaluation of any other programs of this state. Other measures of the ABI development, tasks, and goals are discussed in Appendix H.

Develop targeted research programs by area.

Indicator: Number and amount of funding for ABI-Supported Research Projects, by institution and category of research as specified in the Initiated Act

The goal of this indicator was to ensure that the ABI conducted research in areas that were relevant to the problems occurring in the state of Arkansas due to tobacco related diseases. The SCC discussed and documented a protocol (see Appendix H), which defines how research projects are categorized. The data in Table 8.1 show the number of projects in each of the research areas for each institution and the total amount of funding for each project. Total funding is the sum of ABI allocated monies and extramural funding. As expected, certain institutions focus on particular areas of research. For example, a good deal of research at UA-Ag focuses on agricultural research with medical implications (research category 1).

Table 8.1 Number of Projects and Funding Amounts for ABI-Supported Research, by Institution and Category of Research

	July 2001 – June 2002		July 2002 – June 2003		July -December 2003	
	Number of Projects	Total Funding	Number of Projects	Total Funding	Number of Projects	Total Funding
Category 1						
ACH	0	$ 0	0	$ 0	0	$ 0
ASU	0	0	0	0	0	0
UA-Ag	2	3,163,121	3	3,051,057	3	599,350
UAMS	0	0	0	0	0	0
UAF	2	5,629,645	7	4,195,755	0	0
ABI total	4	8,792,766	10	7,246,812	3	599,350
Category 2						
ACH	0	0	0	0	0	0
ASU	0	0	0	0	0	0
UA-Ag	0	0	1	166,308	1	72,144
UAMS	0	0	0	0	0	0
UAF	0	0	1	120,000	0	0
ABI total	0	0	2	286,308	1	72,144
Category 3						
ACH	0	0	0	0	0	0
ASU	1	643,013	5	1,756,342	6	1,400,954
UA-Ag	0	0	1	136,483	1	47,571
UAMS	17	2,992,748	41	7,804,005	30	5,737,735
UAF	0	0	1	291,000	0	0
ABI total	18	3,635,761	48	9,987,830	37	7,186,260
Category 4						
ACH	1	307,015	2	4,465,862	2	9,407,985
ASU	0	0	1	125,105	0	0
UA-Ag	0	0	0	0	0	0
UAMS	0	0	0	0	2	190,700
UAF	0	0	2	795,916	0	0
ABI total	1	307,015	5	5,386,883	3	287,269
Category 5						
ACH	2	570,540	5	1,724,778	4	1,256,498
ASU	0	0	3	264,279	3	663,055
UA-Ag	0	0	0	0	0	0
UAMS	5	3,809,576	5	5,725,284	5	2,495,388
UAF	0	0	0	0	0	0
ABI total	7	4,380,116	13	7,714,341	12	4,414,941

* Research categories are:

1. To conduct agricultural research with medical implications
2. To conduct bioengineering research focused on the expansion of genetic knowledge and new potential applications in the agricultural-medical fields
3. To conduct tobacco-related research that focuses on the identification and applications of behavioral, diagnostic, and therapeutic research addressing the high level of tobacco-related illnesses in the State of Arkansas
4. To conduct nutritional and other research focusing on prevention or treatment of cancer, congenital or hereditary conditions or other related conditions
5. To conduct other research identified by the primary educational and research institutions involved in ABI

Indicator: Number of collaborative ABI research projects that involve researchers at more than one participating institution

The five institutions that make up ABI have worked collaboratively on many different projects as shown in Tables 8.2 and 8.3. The data in Table 8.2 highlight that collaborative projects across institutions have substantially increased, doubling from 2002 to 2003. The data in Table 8.2 also demonstrate how the collaborative process provides support to each university as newer, less established research institutions, such as ASU, are able to lead projects and partner with more established institutions, such as UAMS. Currently for the first part of fiscal year 2004 (July-December 2003) there are 10 collaborative projects (not shown in table).

Table 8.2 Collaborative Research Projects by ABI Institutions

Sponsoring Institution	Collaborative Projects Led by Institution	ABI Institutions Collaborating on Projects					Other Collaborators
		ACH	ASU	UA-Ag	UAMS	UA-Fay	
July 2001-June 2002							
ACH	2				2		1
ASU	1				1		0
UA-Ag	1	1			1		1
UAMS	1	1					0
UAF	1				1		0
Total ABI-funded	6	2	0	0	5	0	2
July 2002-June 2003							
ACH	2				2	1	1
ASU	4	1			3		0
UA-Ag	3	1			3		1
UAMS	1	1					0
UAF	3			2	2		2
Total ABI funded	13	3	0	2	10	1	4

Note: Data for the full fiscal year 2004 were not yet available so only data for the first two fiscal years are reported in the table.

Table 8.3 Portions of ABI and Extramural Funding Being Used for Collaborative Research Projects

	Percentage of Research Funding That Is for Collaborative Projects	
	Funds from ABI	Extramural Funds
July 2001-June 2002		
ACH	81.3%	100.0%
ASU	100.0	100.0
UA-Ag	95.4	100.0
UAMS	1.9	0.0
UAF	96.0	80.4
Total ABI funding	49.4	55.3
July 2002-June 2003		
ACH	16.5	10.7
ASU	72.6	96.1
UA-Ag	84.4	100.0
UAMS	1.5	1.7
UAF	14.6	19.1
Total ABI funding	31.8	17.5
July – December 2003		
ACH	31.5	6.8
ASU	64.8	68.7
UA-Ag	83.4	0
UAMS	3.3	0.3
UAF	na	na
Total ABI funding	31.5	9.5

na = data not report by the institution

Indicator: Total dollar amount of ABI grant funding awarded for faculty research, total and by institution

The data in Table 8.4 and Figure 8.1 indicate that each of the five institutions has been successful in leveraging funds to support research. Several faculty at the different institutions discussed that ABI funds allowed them to collect pilot data, which then enabled them to obtain extramural funding for a bigger project. ABI money has also allowed researchers to buy much needed and often expensive equipment, which then helped them to conduct a pilot study and use this data to leverage other funding. The ratios of extramural funding to ABI ranged from 2.1 to 3.5, which suggests a high rate of success in obtaining funding to support the research in the five areas specified in the Act.

Table 8.4 Amounts of Funding Awarded for ABI Faculty Research

	ABI Funding	Total Funding*	Ratio of Extramural to ABI
July 2001-June 2002			
ACH	$535,100	$877,555	0.6
ASU	518,337	643,013	0.2
UA-Ag	750,000	3,163,121	3.2
UAMS	2,152,569	6,802,324	2.2
UAF	520,855	5,629,645	9.8
ABI total	4,476,861	17,115,658	2.8
July 2002-June 2003			
ACH	$1,489,823	$6,190,640	3.2
ASU	1,316,671	2,145,726	0.6
UA-Ag	1,943,581	3,353,848	0.7
UAMS	3,632,974	13,565,289	2.7
UAF	1,354,600	5,402,671	3.0
ABI total	9,737,649	30,658,174	2.1
July – December 2003			
ACH	$1,386,980	$10,664,483	6.7
ASU	639,819	2,064,009	2.2
UA-Ag	719,065	719,065	0.0
UAMS	2,075,664	8,423,823	3.1
UAF	0	0	
ABI total	4,821,528	21,871,380	3.5

* Total funding is the sum of ABI funding and related extramural funding from other sources.

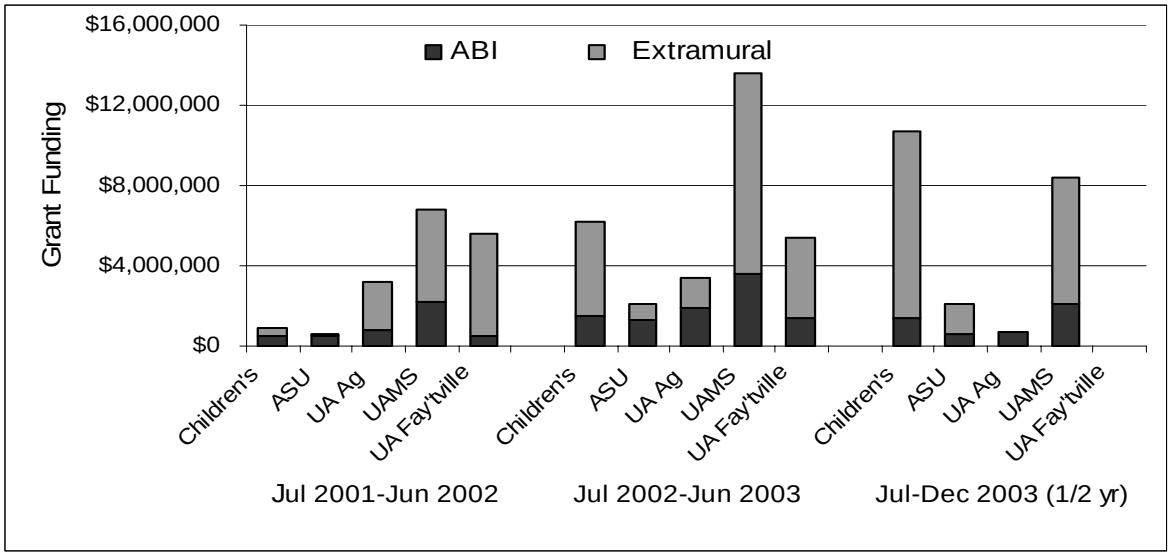

Figure 8.1 ABI and Extramural Funding for ABI Faculty Research

Indicator: Number of each type of service and promotional activities conducted by ABI researchers both inside and outside of the university community

Before the RAND evaluation began, ABI did not collect information from the researchers on their service activities. Since that time, they have collected this information annually. The data in Table 8.5 indicate that ABI has generated numerous publications and has also worked to present information to the community through lectures and seminars, in person media contacts and press releases. Some universities that were more established at the inception of the Act have more researchers and thus more service and promotional activities, however, as each institution continues to build its infrastructure, their individual contributions to these activities should increase.

Table 8.5 Service and Promotional Activity Encounters by ABI Research

	Publications	Lectures and Seminars	In-person Media Contacts	Press Releases
July 2001-June 2002				
[Data not available]	na	na	na	na
July 2002-June 2003				
ACH	25	4	2	0
ASU	9	0	3	4
UA-Ag	15	6	8	1
UAMS	56	9	4	4
UAF	24	5	2	5
ABI total	129	24	20	14

ANALYSIS OF SPENDING TRENDS

Funds were appropriated for the individual institutions comprising the ABI by Acts 1569 (ASU), 1577 (UAMS), 1578 (UAF) and 1579 (UA-Ag) of 2001 and Acts 1056, 1320, and 376 of 2003 for the first two biennia of the Tobacco Settlement Fund Allocation. Arkansas Children's Hospital Research Institute was appropriated funds through the UAMS appropriation. Table 8.6 details the appropriations by institution and fiscal year.

The following analysis describes the expenditures of ABI from July 2001 through December 2003. Note that only half a year of expenditures is presented for the second biennium. Table 8.7 presents the total Tobacco Settlement funds received and spent by ABI during this time period. Spending by the institutions are not compared to the specific allocations for each of the categories displayed in the table above. To complete such an analysis, we would have had to obtain a high level of detail on line items within each of the many individual research projects funded, which would have placed an excessive burden on the institutions for little additional return in evaluation information.

Table 8.6 Tobacco Settlement Funds Appropriated to Arkansas Biosciences Institute Institutions, by Fiscal Year

	First Biennium		Second Biennium	
Appropriation Item	2002	2003	2004	2005
Arkansas State University				
(1) Regular salaries	$ 100,000	$2,015,084	$2,317,370	$2,317,370
(2) Personal service matching	30,000	544,525	626,197	626,197
(3) Maintenance & operation				
(A) Operating expense	242,500	717,175	824,771	824,771
(B) Conference & travel	0	120,000	137,970	137,970
(C) Professional fees	860,000	340,000	391,004	391,004
(D) Capacity outlay	411,380	537,304	617,890	617,890
(E) Data processing	0	0	0	0
Annual Total	1,643,880	4,274,088	4,915,202	4,915,202
Biennium Total	5,917,968		9,830,404	
UA for Medical Sciences				
(1) Regular salaries	912,000	1,967,200	1,926,987	1,926,987
(2) Personal service matching	183,400	394,700	350,773	350,773
(3) Maintenance & operation				
(A) Operating expense	249,040	524,144	524,144	524,144
(B) Conference & travel	40,000	60,000	60,000	60,000
(C) Professional fees	200,000	300,000	300,000	300,000
(D) Capacity outlay	200,000	1,000,000	1,000,000	1,000,000
(E) Data processing	0	0	0	0
(4) Arkansas Children's Hospital	767,220	1,994,772	1,994,772	1,994,772
Annual Total	2,551,660	6,240,816	6,156,676	6,156,676
Biennium Total	8,792,476		12,313,352	
University of Arkansas – Fayetteville				
(1) Regular salaries	131,584	319,312	586,622	586,622
(2) Extra help	105,268	255,450	0	0
(3) Personal service matching	69,558	154,424	132,987	132,987
(4) Maintenance & operation				
(A) Operating expense	154,136	385,872	586,622	586,622
(B) Conference & travel	0	0	0	0
(C) Professional fees	0	0	0	0
(D) Capacity outlay	416,684	1,165,742	1,040,259	1,040,259
(E) Data processing	0	0	0	0
Annual Total	877,230	2,280,800	2,346,490	2,346,490
Biennium Total	3,158,030		4,692,980	
UA Division of Agriculture				
(1) Regular salaries	262,130	723,080	1,316,855	1,358,521
(2) Personal service matching	61,408	169,562	304,635	312,969
(3) Maintenance & operation				
(A) Operating expense	160,937	623,937	375,000	375,000
(B) Conference & travel	0	0	50,000	50,000
(C) Professional fees	0	0	0	0
(D) Capacity outlay	392,755	764,221	300,000	250,000
(E) Data processing	0	0	0	0

Annual Total	877,230	2,280,800	2,346,490	2,346,490
Biennium Total	3,158,030		4,692,980	
ABI Annual Total	5,950,000	15,076,504	15,764,858	15,764,858
ABI Biennium Total	21,026,504		31,529,716	

Each year, ABI received less money than was specified in the appropriations. A percentage of the funds received by each institution was used to support the central ABI administration (3.7 percent in FY 2002 totaling $185,000, and about 1.2 percent each in FY 2003 and FY 2004 totaling $250,000 each year). With the exception of the UA-Ag, the institutions did not spend close to the full Tobacco Settlement funds received during FY 2002—this was a start-up period during which the institutions were developing their infrastructure. The institutions were more aggressive in their spending the second year of the biennium, and only two institutions returned money to the general Tobacco Settlement Fund at the end of the biennium. In addition, UAF reported that the only reason it returned funds was the inability to move the unused "personal service matching" dollars to another category. In the first half of fiscal year 2004, spending by the institutions again slowed down.

Table 8.7 Tobacco Settlement Funds Received and Spent by Arkansas Biosciences Institute by Fiscal Year

	2002		2003		Biennium	2004	
Institution	Received	Spent	Received	Spent	Difference**	Received	Spent
ASU	1,449,703	518,337	3,759,916	4,575,988	115,294	3,852,488	963,012
UAMS	1,353,190	793,704	3,509,602	4,079,901	(10,813)	3,596,012	716,829
ACH	676,595	419,967	1,754,801	2,032,114	(20,685)	1,798,006	344,936
UAF	773,611	69,298	2,006,418	2,701,121	9,610	2055,818	227,809
UA-Ag	773,611	771,058	2,006,418	2,073,376	(64,405)	2055,818	719,133
Annual Total	5,026,710	2,572,365	13,037,155	15,462,500	29,000	13,358,142	2,971,719
ABI Central*	185,000	117,526	250,000	317,412	62	250,000	92,484

* This amount is included in the expenditures of the individual institutions and therefore is not included in the annual total.

** The amount ASU and UAF reported returning to the general Tobacco Settlement Fund was greater than the amounts reported above due to the constraint that money could not be shifted across allocation categories. Also, as monies could not be shifted across institutions, the total amount institutions returned to the general Tobacco Settlement Fund was the sum of the amounts returned by ASU and UAF.

Table 8.8 presents the quarterly use of ABI dollars by research grants to faculty members. The institutions varied with how rapidly they established their grants programs. Only UAMS and ACH funded research projects the first year they received Tobacco Settlement funds. Other institutions focused their spending on equipment and facilities during the first year. Quarterly expenditures varied across institution and over time, with the percentage of total Tobacco Settlement spending on research projects varying from 0 percent during some institutions' start-up, to 90 percent or more as research activities expanded. The percentage of total funds spent on

research projects tended to peak during the latter half of FY 2003, dropping off again in FY 2004.

Table 8.8 Quarterly Expenditures on Research Projects by ABI Institution

	2002				2003				2004	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
ASU										
Research $	0	0	0	0	0	0	231,665	1,060,819	279,849	254,114
# Projects	0	0	0	0	0	0	10	10	10	9
% $ on Research	0	0	0	0	0	0	81%	70%	61%	50%
UAMS										
Research $	na	29,703	128,362	201,528	144,257	579,267	1,011,635	2,027,804	209,307	415,185
# Projects	na	4	10	12	15	19	34	49	7	13
% $ on Research	na	39%	83%	88%	*	*	*	*	82%	90%
ACH										
Research $	na	na	12,904	250,922	67,990	81,420	277,570	962,060	84,297	162,677
# Projects	na	na	2	3	3	5	5	9	6	5
% $ on Research	na	na	97%	66%	64%	59%	83%	67%	65%	76%
UAF										
Research $	+	+	+	+	+	+	+	+	+	+
# Projects	+	+	+	+	+	+	+	+	+	+
% $ on Research	+	+	+	+	+	+	+	+	+	+
UA-Ag.										
Research $	0	0	0	0	470	55,237	203,327	211,946	53,544	131,130
# projects	0	0	0	0	1	7	9	10	9	15
% spent on research	0	0	0	0	0.1%	13%	47%	29%	25%	26%

* UAMS changed accounting systems during the year and most non-research entries were made in June 2003, making it impossible to determine the percentage of funds spent on research projects.

\+ University of Arkansas – Fayetteville did not separate out the expenditures on research projects until January 2004. Thus, they do not have data to report in this table.

na – indicates there were no expenditures during this time period, on research projects or otherwise. Zero indicates there was spending on salaries and infrastructure, but not on specific research projects.

EVALUATION OF THE PROGRAM

ABI has a unique opportunity to have a significant effect on the state because it comprises five very diverse institutions in different areas of the state that have the ability to affect several surrounding communities. Over the past two years, each institution has progressed in creating infrastructure to support the five research areas specified in the Act. The individual institutions also have collaborated on several projects. Finally, ABI has begun to disseminate findings through scholarly publications, lectures and seminars, and contacts with the media.

Tobacco Settlement funds have been used to support development of research activities that have led to extramural funding support, and more space for researchers so that they can expand their programs of research. Finally, equipment was purchased that would not have been available without ABI funds, which has increased productivity at the different institutions

Some institutions, such as ASU and ACH, have faced challenges in research development. ASU had to develop a research program for the university and hire several key people to move the university forward toward reaching this goal. Following the resignation of the president of the ACH Research Institute in 2003, the institute had to redirect its major recruitment efforts to the recruitment of a new president. Once the new president is selected, ACH will be able to direct its focus on recruiting faculty in their specific research areas.

Several core facilities have been created utilizing the tobacco funds, which provided shared capabilities for all the partner institutions. These are based at different institutions and serve as resources for the community and for the other universities. These shared resources have created efficiencies in the state that otherwise would not have happened. For example, at UAMS, ABI funding was allocated to improve core scientific equipment facilities providing micro-array gene chip analyses. At ASU, ABI has equipped and supports a core imaging facility. In addition, two other core facilities facilitating the study of biological molecules by mass spectrometry and ligand binding were also funded.

FINDINGS AND RECOMMENDATIONS

Key Findings

ABI and its member institutions have made substantial progress in establishing a research program that addresses the five research areas specified in the Initiated Act, and they are beginning to disseminate results of the research to the scientific community. The following is a summary of our key findings:

- ABI has been successful in building a steadily growing portfolio of research projects that focuses on the five research areas specified in the Act.
- ABI has established several core facilities using the Tobacco Settlement funds. These facilities have created research efficiencies in the state that otherwise would not have existed.
- ABI has successfully leveraged the Tobacco Settlement funds to bring in extramural funding at an average ratio of 2.8 extramural dollars for each Tobacco Settlement dollar spent on targeted research programs.
- ABI has begun to disseminate findings through their fall symposium, scholarly publications, lectures and seminars, and contacts with the media.

Recommendations

- **ABI should work to better publicize the ABI initiatives to the state of Arkansas and nationally.**

Despite ABI's successful establishment of a research program, many of the surrounding communities of the different institutions are not aware of ABI or its mission. Communication of the ABI initiatives within the state of Arkansas and nationally would help with recruitment of new faculty, building reputation, and creating a positive image of what ABI is and what it does. This was also a recommendation from the ABI Science Advisory Committee and Industry Advisory Committee. Marketing can be done through such activities as radio and newspaper ads, having a symposium for the general public to discuss the research, beginning to collaborate with local businesses, and lecturing or providing seminars to local high schools for youth who may then decide to attend that institution. It is a good time for ABI to make marketing a priority, now that the infrastructures have been established at each institution.

- **ABI should begin to collaborate with the surrounding community.**

Collaboration with the community can be a useful part of a marketing campaign, but it also offers substantive benefit for disseminating findings from the ABI research and forging of partnerships for future product development. The Small Business Innovation Research (SBIR) Program mechanism could be used to involve businesses in the commercial development of ABI research. Local businesses also could be part of the recruitment process, which helps determine both the university and community needs. For example, ASU involved several businesses in their recruitment of faculty and the executive director position of ABI.

- **Strategies should be identified to increase the collaborative process among the five institutions.**

Separate Tobacco Settlement funds were appropriated to each of the five institutions. The alternative would have been to establish one ABI appropriation from which ABI would award funding to each of the five institutions. Although ABI has created more opportunities for collaboration between the five institutions, there are no financial incentives to collaborate. For example, each institution receives its own money versus having a common fund. This approach is useful because it ensures that each institution has a funding base to build its own research portfolio, and indeed the less established research institutions have brought in the more experienced ones to collaborate on their projects. However, the member institutions have been somewhat reluctant to build a more formal ABI infrastructure to coordinate their research activities.

Identifying strategies that encourage multidisciplinary and multi-institution collaborations was also a recommendation of the Science Advisory Committee and Industry Advisory Committee. Strategies to increase the collaborative process could include putting aside some funds in a common fund specifically for projects that involve researchers from more than one ABI institution. Such incentives could enhance cross-fertilization of research activities among the five institutions.

- **ABI should begin to examine outcomes of their program.**

Because much of the ABI research may not have effects on the health of Arkansans for many years, ABI should begin to look at other potential outcomes. For example, the tobacco

money has significantly increased the amount of research conducted, thus there have been many more undergraduate and graduate students involved in research opportunities at all of the institutions. It would be informative to keep track of these students as they graduate to determine if they stay in Arkansas and utilize their expertise to benefit the surrounding communities.

Chapter 9.
Medicaid Expansion Programs

EXPECTATIONS SPECIFIED IN THE INITIATED ACT

As defined in the Initiated Act, the goal of the Medicaid Expansion is to "expand access to healthcare through targeted Medicaid expansions thereby improving the health of eligible Arkansans." The Act calls for the following four programs, which we describe below:

1) the expansion of Medicaid coverage and benefits to pregnant women;
2) expanding inpatient and outpatient hospital reimbursements and benefits to adults age 19 to 64;
3) expanding non-institutional coverage and benefits to adults aged 65 and over; and
4) the creation and provision of a limited benefit package to adults age 19 to 64.

PROGRAM DIRECTION AND OPERATION

The goal of the Medicaid Expansion program is to create a separate and distinct component of the Arkansas Medicaid Program that improves the health of Arkansans by expanding health care coverage and benefits to specific populations. As of November 2001, the expansion of Medicaid benefits to pregnant women who met the income eligibility requirements was in place, as was the expansion of inpatient hospital benefits for non-elderly Medicaid beneficiaries. The AR-Seniors program, which expands Medicaid benefits to Medicare beneficiaries below an established income level was approved and established in November 2002. All three of these programs build on existing organizational, staffing, and system structures, which enabled the rapid implementation of these expansion efforts in the Medicaid program. To date, the AR-Adults program, which would extend a limited benefits packaged to low-income individuals who do not already qualify for Medicaid, has not been implemented because it has not been approved by the Centers for Medicare and Medicaid Services (CMS).

Program Startup Process and Development

In order to implement the Medicaid Expansion Program, CMS had to approve all proposed changes to the programs. A separate amendment to the State Plan had to be approved. The pregnant women's program and the inpatient hospital benefits expansion were each approved within three months of the request for amendment approval. The AR-Seniors program, which expands Medicaid benefits to Qualified Medicare Beneficiaries with a qualifying income level, took a little longer to be approved. In part, this was because the Medicaid office first submitted the request to establish this program as a Medicaid waiver. CMS informed the State that it could submit its request as an amendment to the State Plan and once that request was submitted, the approval came shortly thereafter.

The Medicaid expansion programs were relatively easy to implement. With the exception of the AR-Adults program, each expanded benefit was based on an existing structure, and no new processes were developed. System changes were made, providers and beneficiaries were notified through normal channels, and the programs were put into place. The Department of

Human Services had very little latitude in creating the programs – the Act was very prescriptive. Below are more detailed descriptions of each expansion program.

Pregnant women expansion: Prior to the implementation of the expansion program, Medicaid benefits were extended to pregnant women with incomes below 133 percent of the Federal Poverty Limit (FPL). With the Tobacco Settlement funds, Medicaid benefits have been expanded to cover health care services for women with incomes up to 200 percent of the FPL. This expansion effort was approved by the CMS as an amendment to the Arkansas State Plan effective November 1, 2001.

Women generally learn of the availability of expanded coverage through Medicaid through their local health department clinic but some have learned about this program through other health clinics not run by the state. Providers generally are aware of the availability of insurance coverage through this program. If the woman is seeking care through the health department or a qualified provider, they can access Medicaid through the presumptive eligibility process. These women's applications are then processed by the Department of Human Services, which houses the Medicaid program. Other clinics can refer women to the DHS to fill out the application.

Inpatient reimbursements: Medicaid beneficiaries age 19 to 64 who had an inpatient stay were responsible for a 22 percent coinsurance of the hospital's per diem applied on the first Medicaid covered day of each admission. Medicaid benefits were expanded to reduce the coinsurance payment from 22 percent to 10 percent of the cost of the first Medicaid covered day of admission. This expansion effort was approved by CMS as an amendment to the Arkansas State Plan effective November 1, 2001. An additional revision was made to the benefit limit for Medicaid inpatient care for beneficiaries age 21 and older, which covers additional medically necessary days in the hospital beyond the allowed 20 days up to 24 days per State Fiscal Year. This expansion effort was approved by CMS as an amendment to the State Plan and made effective November 1, 2001.

AR-Seniors: The AR-Seniors program extends full Medicaid benefits to older adults (age 65 and over) who have been identified as Qualified Medicare Beneficiaries (QMB - defined as one with an income level less than or equal to 100 percent of the FPL) and meet specific, more stringent income limits. The plan was first implemented and made available to seniors with incomes less than or equal to 75 percent of the FPL. Originally, the State proposed a limited benefit package for seniors and this benefit was submitted to CMS for approval as a Medicaid waiver. However, a decision was made to offer the full Medicaid benefits package and CMS informed the Department of Human Services that DHS did not need a waiver to offer the full package of benefits and simply needed to amend the Arkansas State Plan. This amendment was submitted and approved effective October 1, 2002. The program was put in place on November 1, 2002. Subsequently, an additional amendment was filed with CMS to increase the income limit for the AR-Seniors program to 80 percent of the FPL, which CMS approved effective January 1, 2003. Beneficiaries designated as Qualified Medicare Beneficiaries are automatically enrolled in the AR-Seniors program when their income level reaches or drops below 80 percent of the FPL.

Only those who apply for QMB status can be considered for inclusion in the AR-Seniors program. The Medicaid Office of County Operations receives income updates annually and when one's income falls to or below 80 percent of the FPL, they are automatically sent a letter notifying them of their eligibility for expanded benefits.

AR-Adults: A limited benefits package was developed and proposed to CMS for low-income adults age 19 to 64 who do not otherwise qualify for Medicaid. The intended plan would identify eligible individuals who qualify for the state's food stamp program and have an income less than or equal to 25 percent of the FPL. The plan included providing eligible individuals with a limited annual benefit package including six physician visits, two outpatient surgery days, and two prescriptions per month at an estimated average cost of $50 per member per month. Inpatient services initially were considered for inclusion in this package, but it was determined that the cost of the benefit would be too high, or they would have to reduce the income limit to 10 percent of the FPL. The State considered this package to be more of a preventive benefit and thus decided to exclude inpatient services from it. A concept paper was developed and submitted to CMS to obtain approval for an 1115 Waiver for the State Plan. A waiver was requested because the proposed covered population is not a categorically eligible Medicaid group. To date, CMS has not approved the waiver request, citing lack of cost-neutrality for the program.

Medicaid has been authorized to use the funds designated for AR-Adults (what was delegated for both salaries and benefits) for general Medicaid expenditures if they have a shortfall. This "Rainy Day" fund was established as part of Act 2 of 2002. In the last fiscal year, the Medicaid program made use of the Rainy Day fund because of multiple budget reductions. It does not appear that they will require these funds this year, but depending on legislative actions, they may be required to use these funds to cover expected budget shortfalls in the next year.

The State spent a considerable amount of time defining the eligibility criteria for each expansion program to ensure that they could cover the additional eligible populations. As a result, it appears that resources are sufficient at this time to provide the benefits packages they cover. There has been some discussion of increasing the income level for AR-Seniors eligibility, but there were greater challenges in predicting who would be eligible above 80 percent of the FPL. Estimates suggest substantial numbers of QMBs who are between 80 percent and 100 percent of FPL, suggesting that increasing the income level for this group might over-extend the budget. More analysis is needed before they can increase income levels for this group.

The state has a good information system in place that has facilitated the implementation of the expansion programs. They are capable of tracking all Medicaid providers and have sent transmittal letters informing selected providers of expanded services available to seniors through the AR-Seniors program. Additionally, they have used the information system to notify QMBs who meet the income threshold that they have been enrolled in the AR-Seniors program and provide instruction on how to obtain the new benefits.

PERFORMANCE ON PROCESS INDICATORS THROUGH 2003

Five indicators were selected that represent the overall progress of the Medicaid Expansion Programs. These indicators reflect the goal stated in the Act to "expand access to healthcare through targeted Medicaid expansions thereby improving the health of eligible Arkansans." The indicators reflect efforts to: 1) provide access to Medicaid services for pregnant women with income between 133 percent and 200 percent of the FPL, 2) expand Medicaid-reimbursed hospital care and reduce cost-sharing for hospital stays of Medicaid beneficiaries age 19 to 64, 3) expand Medicaid benefits to Medicare beneficiaries deemed eligible for Qualified Medicare Beneficiary status and with incomes below 80 percent of the FPL, 4) establish a new benefit to

increase access to a limited package of Medicaid-funded services for indigent adults, and 5) leverage Tobacco Settlement funds allocated to the Medicaid Expansion Programs.

Provide access to Medicaid services for pregnant women with income between 133 percent and 200 percent of the Federal Poverty Level

Indicator: Percentage of pregnant women with income between 133 percent and 200 percent of the Federal poverty level (FPL) participating in Medicaid

Table 9.1 presents the enrollment activity for the pregnant women's expansion program both as the count of women enrolled in each period and the proportion of estimated eligible women. The denominator used in establishing the proportion was based on Department of Health 2002 estimates of potentially eligible individuals. In total, 7,800 women were estimated to eligible in 2002 and we divided this amount by two to reflect the six-month time periods used for evaluation. According to the Department of Health, the number of women between 133 percent and 200 percent of the federal poverty level can be expected to be lower than the estimated 7,800 because more of the women in the higher income group will have personal or third party resources to cover their pregnancy. Therefore, the estimate reported can be considered a conservative estimate, but the size of the difference cannot be estimated.

There has been a steady increase in enrollment for the pregnant women's Medicaid expansion program since its inception. The low number in the first period reflects the fact that the program was not implemented until November.

Table 9.1 Use of Expanded Pregnancy Medicaid Benefits by Eligible Women

	Participants in Pregnancy Benefits	
Six-Month Period	Number	Percentage *
Jul-Dec 2001	266	6.8%
Jan-Jun 2002	1,148	29.4
Jul-Dec 2002	1,705	43.7
Jan-Jun 2003	1,997	51.2
Jul-Dec 2003	2,081	53.4

* The denominator used was 3,900 potential eligibles, based on a 2002 estimate established by the Department of Health of 7,800 eligibles annually, which was divided by 2 to reflect the six-month time periods used for the evaluation.

Expand Medicaid-reimbursed hospital care and reduce cost sharing for hospital stays of Medicaid beneficiaries age 19-64

Indicator: Number of eligible Medicaid recipients using expanded inpatient reimbursements

Table 9.2 presents the number of eligible adult Medicaid recipients using expanded hospital reimbursements. It includes use of either reduced co-payments or expanded hospital days covered per year from 20 to 24 days. We observe a large increase in the number of recipients using the benefits between the second period of 2001 and the first period of 2002 due to the late start of the program in CY2001. Then there was an increase in the use of the

expanded benefit until the second period of 2003, when counts dropped by almost 8,000. At this point, we do not know why we observe such a steep decline.

Table 9.2 Medicaid Recipients Using Expanded Inpatient Benefits

Six-Month Period	Count of Beneficiaries *
Jul-Dec 2001	2,448
Jan-Jun 2002	22,933
Jul-Dec 2002	26,305
Jan-Jun 2003	29,077
Jul-Dec 2003	21,303

* The eligible population is Medicaid recipients between the age of 19 and 64.

Expand Medicaid benefits to Medicare beneficiaries deemed eligible for Qualified Medicare Beneficiary status and with incomes at or below 80 percent of the FPL

Indicator: Percentage of eligible persons age 65+ with income ≤80 percent of FPL using expanded coverage (AR-Seniors)

Table 9.3 presents summary information on enrollment of Medicare beneficiaries who have been deemed eligible for the AR-Seniors program. To be eligible, one must first apply to be a Qualified Medicare Beneficiary. Once that individual's income falls to 80 percent of the FPL or lower, he or she becomes eligible for the AR-Seniors program and can receive the full array of Medicaid benefits. In this table, we present the counts of individuals enrolled in each period as well as the proportion of all potentially eligible who are actually enrolled. We present the proportions with two different denominators. The first denominator is based on Medicaid estimates of the eligible QMB population (approximately 5,000 enrollees). Based on this denominator, the AR-Seniors program is at about 80 percent of capacity. The second denominator comes from the Arkansas Census Data. We estimate that in 1999, there were almost 52,000 adults age 65 and older whose income was at or below 80 percent of the FPL. Based on this denominator, the program is at just under 8 percent capacity. Overall, there has been a steady increase in enrollment for the AR-Seniors program.

Table 9.3 Eligible Elderly Persons Using Expanded Medicaid Coverage

Six-Month Period	Participants in Expanded Coverage for Seniors		
	Number	Percentage of Eligible QMBs*	Percentage of Total Eligibles in AR**
Jul-Dec 2001	0	0	0
Jan-Jun 2002	0	0	0
Jul-Dec 2002	1,567	31.1	3.0
Jan-Jun 2003	3,795	75.9	7.3
Jul-Dec 2003	4,040	80.8	7.8

* Denominator estimated by the Arkansas Medicaid program based on number of individuals in Arkansas enrolled as Qualified Medicare Beneficiaries (5,000 enrollees).

** Denominator obtained from the Arkansas Census data in the PUMS 1% file (51,755 potentially eligible based on 1999 estimates).

Establish a new benefit to increase access to a limited package of Medicaid-funded services for indigent adults

Indicator: Percentage of adults eligible as AR-Adults participating in Medicaid expansion with limited benefits package

This program is not implemented yet because it has not been approved by the Centers for Medicare and Medicaid Services.

Leverage Tobacco Settlement funds allocated to the Medicaid Expansion Programs

Indicator: Ratio of total spending to Tobacco Settlement funds allocated for the expanded Medicaid programs.

Part of the design of the Medicaid program is to match the state investment in Medicaid services to federal dollars. The federal match for Medicaid health care service costs is three dollars for every state dollar spent. The match for program administration costs is one federal dollar for every state dollar. Therefore, by the basic program terms, the Tobacco Settlement funds applied to the Medicaid expansion are leveraging external dollars substantially.

The State of Arkansas is currently facing major budget challenges. In part, this is due to a court case ruling earlier this year that is requiring the legislature to allocate more funds to education. School funding calculations for appropriating funds are not appropriate and need to take into account teacher training, teacher/student ratios, and building infrastructure. The budget impact is significant – estimates for updating school buildings may be close to $1 billion.

The education budget problems have caused every state agency to explore what would happen with a freeze of state funding. For the Medicaid Expansion Program, the concern is that, while the Tobacco Settlement funds will still cover the costs of care for beneficiaries of the expanded programs, the original Medicaid benefits that are funded by the state general budget are vulnerable to the funding freeze to support education expenses. A bizarre scenario could unfold in which the basic Medicaid benefits erode while the expanded benefits remain intact, creating a gap in coverage of eligible populations. In addition, much of the administrative costs of the program are funded through state dollars.

ANALYSIS OF SPENDING TRENDS

Act 1574 of 2001 and H.B. 1377 of 2003 appropriated funds for the Medicaid expansion program for the first two biennium periods of the Tobacco Settlement Fund Allocation. Table 9.4 details the appropriations by fiscal year. Separate appropriations were made for three components of Medicaid operations – county operations (where enrollments are managed), Medicaid Services (administration of health care benefits), and Medical Services (expenses for health care services delivered to recipients). The appropriation amounts reported include the federal matching dollars for the Medicaid program.[13]

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[13] The funds appropriated in the appropriations legislation included both the state and federal amounts to be spent on the Medicaid program. The Medicaid program staff reported that it was not possible for them to disaggregate the federal matching dollars from Tobacco Settlement Funds, so they provided us with the total numbers.

Table 9.4 Appropriations for the Medicaid Expansion Program, Sum of Tobacco Settlement Funds and Federal Matching Funds, by Fiscal Year

Item	First Biennium 2002	2003	Second Biennium 2004	2005
Section 3: County Operations				
(1) Regular salaries	$316,040	$1,242,171	$1,389,539	$1,427,057
(2) Personal service matching	91,652	360,230	466,522	473,403
(3) Maintenance and general operation				
(A) Operating expenses	197,974	195,795	195,795	195,795
(B) Conference and travel	0	0	0	0
(C) Professional fees	0	0	0	0
(D) Capacity outlay	69,300	0	0	0
(E) Data processing	0	0	0	0
(4) Purchase data processing	1,000,000	50,000	50,000	50,000
Section 4: Medicaid Program Management				
(1) Regular salaries	65,361	67,061	72,539	74,497
(2) Personal service matching	18,955	19,448	20,024	20,383
(3) Maintenance and general operation				
(A) Operating expenses	15,973	15,973	15,973	15,973
(B) Conference and travel	2,000	2,000	2,000	2,000
(C) Professional fees	0	0	0	0
(D) Capacity outlay	9,000	0	0	0
(E) Data processing	0	0	0	0
Section 5: Medical Services				
(1) Prescription drugs	7,769,669	29,063,678	29,063,678	29,063,678
(2) Hospital and medical services	23,432,208	46,765,542	46,765,542	46,765,542
Annual Total	$32,988,13	$77,781,898	$78,041,61	$78,088,328
Biennium Total	$110,770,030		$156,129,940	

The following analysis describes the expenditures for the Medicaid expansion program from July 2001 until December 2003, including spending of both the Tobacco Settlement funding and the matching federal funds. Because December 2003 is the middle of the first year of the second biennium, no year totals for fiscal year 2004 are presented and it is not possible to fully detail expenditures in the second biennium because it is not yet over.

Table 9.5 presents the total annual funds spent by the Medicaid expansion program during this time period. The original act creating the Medicaid expansion programs called for four different expansion programs, however as described above, the AR-Adults program has not yet been approved. Therefore, it is not surprising that the Medicaid program did not spend the full amount it was appropriated in the first biennium and continues to under-spend in the first two quarters of fiscal year 2004.

The additional staff and overhead required for the Medicaid expansion program is minimal compared to the medical services expenses; very little was spent on regular salaries, fringe, and maintenance and operation. In fiscal year 2002, no funds were spent on county operations and less than $35,000 was spent on Medicaid services. Funds for medical services, in particular prescription drugs, were under spent, in large part because the AR-Adults program had not been implemented. By the second quarter of 2004, county operations continued to spend less than half the amounts anticipated by the original Act, while salaries and operations spending for Medicaid services were more on track to spend the full appropriated amount.

Table 9.5 Spending by the Medicaid Expansion Program, Sum of Tobacco Settlement Funds and Federal Matching Funds, by Fiscal Year

Item	2002	2003*	2004**
Section 3: County Operations			
(1) Regular salaries	$ 0	$ 230,661	$ 212,599
(2) Personal service matching	0	229,605	144,887
(3) Maintenance and general operation			1,789
(A) Operating expenses	0	11,127	1,789
(B) Conference and travel	0	0	0
(C) Professional fees	0	0	0
(D) Capacity outlay	0	0	0
(E) Data processing	0	0	0
(4) Purchase data processing	0	0	4,713
Section 4: Medicaid Program Management			
(1) Regular salaries	28,001	45,752	23,820
(2) Personal service matching	4,858	8,434	6,054
(3) Maintenance and general operation	0	0	1,612
(A) Operating expenses	0	0	1,612
(B) Conference and travel	0	0	0
(C) Professional fees	0	0	0
(D) Capacity outlay	0	0	0
(E) Data processing	0	0	0
Section 5: Medical Services			
(1) Prescription drugs	22,881	936,436	1,565,041
(2) Hospital and medical services	4,651,310	11,673,385	4,114,437
Rainy Day Trust Fund*	0	17,733,032	0
Annual Total	$4,707,049	$30,868,43	$6,074,951

* Acts 2002 (Ex. Sess.), No. 2, § 11

** Amounts spent through December 31, 2003

Due to the large amount of unspent Medicaid expansion funds, unspent Medicaid expansion funds were put into a Rainy Day Trust Fund (Acts 2002 [Ex. Sess.], No. 2, § 11) to be used during periods of budget shortfall for the general Medicaid program. This fund was used in

fiscal year 2003, when $17,733,032 in Tobacco Settlement funds were used for general Medicaid expenditures. The Rainy Day Trust Fund was not used in fiscal year 2002 and has not been used yet in fiscal year 2004.

Figure 9.1 highlights the spending of the Medicaid expansion program for the three major categories outlined in the appropriation: county operations, Medicaid services, and medical services. Spending for all three categories increased with time until the last quarter of fiscal year 2003 where they all reached a plateau. Expenditures for operations for Medicaid services were so small that they are barely visible on the figure. At the current rate of growth, it appears that the Medicaid expansion program will still not spend the full appropriation it received for fiscal year 2004 by the end of the fiscal year, and the balance will carry over into fiscal year 2005.

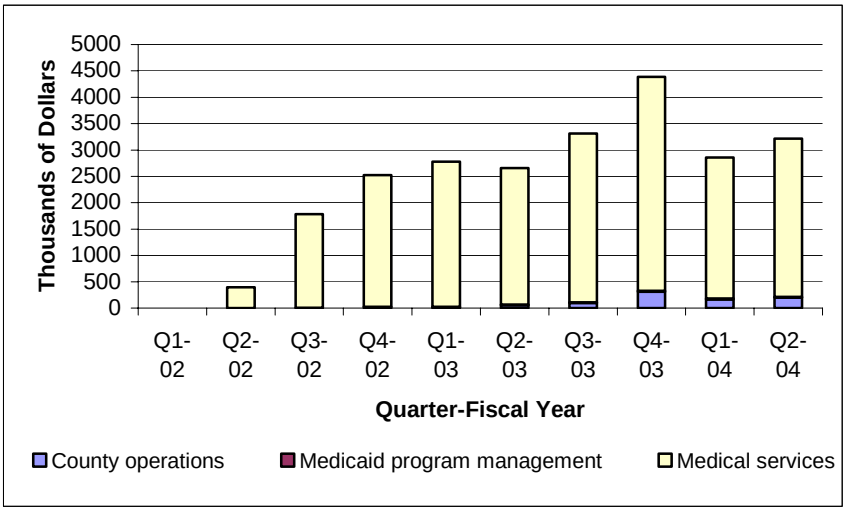


Figure 9.1 Medicaid Expansion Program Spending, Sum of Tobacco Settlement Funds and Federal Matching Funds, by Program Office, by Quarter of Fiscal Years

Figure 9.2 charts the spending of the three operational Medicaid expansion programs from their inception in the second quarter of fiscal year 2002 through the second quarter of fiscal year 2004. The inpatient hospital program was the first program to begin spending Tobacco Settlement and matching federal funds in November of 2001 (second quarter of fiscal year 2002). The pregnant women expansion program began in March of 2001 (third quarter of fiscal year 2002). The AR-Seniors program began in November of 2002 (second quarter of fiscal year 2002). In its first quarter, the AR-Seniors program only spent $21,000, and this amount is barely noticeable in the figure. After two quarters of initial start up, spending for the pregnant women expansion appears to be fairly stable, but the inpatient hospital expansion spending fluctuations from quarter to quarter. Spending for the AR-Seniors program still be increasing in the last four quarters reported. Average spending for all three programs each quarter is approximately $3 million.

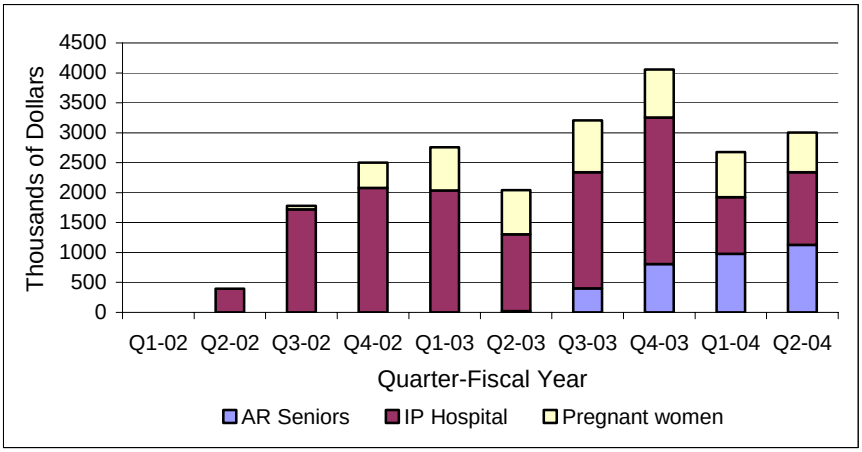


Figure 9.2 Spending by the Medicaid Expansion Program, Sum of Tobacco Settlement Funds and Federal Matching Funds, by Program, by Quarter

EVALUATION OF THE PROGRAM

One of the great successes of the Medicaid Expansion initiative is the speed in which the programs were put into place, particularly the pregnant women's expansion and the expanded hospital benefits. While there were some delays in getting the AR-Seniors program in place, once the State Plan was amended, the beneficiaries were quickly enrolled.

The enrollments in the expansion programs have not been as large as the state might have expected, particularly among pregnant women. A probable reason for the low enrollment of pregnant women is that there has not been a significant effort at the local level to make sure women are aware that the expanded services are available. This is in part due to the many other priorities that DHS must attend to that pull their attention away from enrollments in the expanded benefits.

Enrollment in AR-Seniors is automatic if one has already applied for and deemed eligible for Qualified Medicare Beneficiary (QMB) status, yet enrollments in this program also are lower than expected. The state believed that some seniors would enroll for QMB status after learning of these expanded benefits but they have not yet observed this "woodwork effect" in the program.

The Medicaid program does not perform any outreach activities to educate the public about the availability of the programs or what is covered under them. The AR-Seniors program beneficiaries receive a letter in the mail along with their Medicaid card when their income falls below the required amount. However, there is generally no contact with a provider or agency at the time of enrollment. The state is looking for ways to distribute information about available services so that residents do not have to come into a county enrollment office, which may reduce stigma and increase enrollment. The Medicaid program relies heavily on their information technology to get people enrolled. The state is ranked highly in terms of accuracy and timeliness of enrollment, but the cost is that people are nervous to enroll because of the rigorous methods they apply to verify eligibility. Even with the concerns about outreach, the AR-Seniors and pregnant women expansion enrollments seem to be steadily increasing, although the inpatient expansion data suggests a decline.

As part of our April 2004 site visit, we conducted two focus groups, one with individuals recently enrolled in the pregnant women's program and the other with enrollees in AR-Seniors. What we learned from the focus groups raises great concerns regarding the ability of the Medicaid expansion programs to effectively improve the health of the enrolled population. The AR-Seniors enrollees with whom we spoke did not recognize the name of the program. When asked whether they received educational materials, none could recall any. Two of the focus group members were still paying out of pocket for Medicare supplemental insurance for pharmacy coverage, even though that is included as an expanded Medicaid benefit. One individual, who had substantial pharmacy needs after a hospital stay, even went so far as to contact the Governor's office to get help with paying for his medications. The focus group became an opportunity for the participants to share information with each other about pharmacy discount programs.

The participants in the pregnant women's focus group were much more familiar with the Medicaid expansion program, although none of them were aware that the program was available to them because of the Tobacco Settlement funds. Most of the women were enrolled through their local health department. All of them stated that they were unclear about what exactly was covered by Medicaid, and many were unsure of what kind of insurance coverage they or their child would have after the birth.

The state was facing some staffing challenges at the time of our first site visits in Spring 2003. The state had a hiring freeze in effect then and was preparing a reduction in force for state employees. As a result, the Department of County Operations was unable to hire the additional staff afforded to it by the Tobacco Settlement funds. The reason for not filling these positions was not related to the lack of funds, but rather to the fact that the Department was reducing regular Medicaid staff positions. The hiring freeze was resolved shortly after our site visits, and the extra positions could be filled. There is still a concern about staffing and the state's abilities to manage growth in programs. Smaller counties have enough staff to carry out the necessary workload and tasks, but staff in larger counties are overburdened by the workload and additional staff are needed. Additionally, there tends to be high staff turnover in the Division of County Operations, where enrollment takes place. The economy in northwest Arkansas is very good and the result is very high turnover among caseworkers there because they can find other jobs (almost 70 percent). In other parts of the state, where jobs are more scarce, turnover is minimal (around 24 percent). A major budget cut could create serious challenges for the expansion programs in terms of staffing.

Another challenge that remains for the DHS with respect to the Medicaid Expansion is the inability to establish the AR-Adults program CMS has not approved the 1115 Waiver request because CMS estimates it would not be cost neutral. The state argued that, without access to health care services, the population they propose to serve would be eligible later on for public benefits at an even greater cost to both the state and federal governments. If the state cannot negotiate a cost-neutral package of services for the proposed population, the Medicaid program will not be able to implement the AR-Adults program.

FINDINGS AND RECOMMENDATIONS

Key Findings

The strengths of the Medicaid Expansion Programs are that they have been built on existing staffing and information systems, which enabled rapid implementation of three of the four expansion programs. While these programs have consistently grown and enrolled more individuals, there is still a substantial need for more education and outreach so the general population can be reached and informed about the available programs. In addition, enrolled populations need to be educated better to ensure they understand what their benefits are under this coverage in terms of health care services. The AR-Adults program remains elusive, in part because the federal government's priorities have shifted in the last two years, making federal funds scarce. Any changes to the state Medicaid program have implications for the federal budget because of the state/federal match of funds.

Recommendations

- **Dedicate some of the Tobacco Settlement funds for Medicaid program administration to support outreach and education of beneficiaries in the expanded Medicaid programs**

Medicaid beneficiaries are not clear on what services they are eligible for and among the Medicare population, they are often not aware they have special benefits available to them.

- **The Department of Human Services should allocate more resources to increase the staffing in county offices**

Low staffing in the enrollment function contributes to low enrollment rates as well as less informed recipients because overworked staff do not have the time to provide the needed education and instruction as recipients are enrolled.

- **Medicaid staff should continue to work with CMS to develop an acceptable 1115 Waiver for the AR-Adults program**

The Medicaid program has not been successful to date in gaining approval for the AR-Adults program.

Chapter 10.
Evaluation of Smoking-Related Outcomes

An important part of any evaluation is the step of examining the extent to which the programs being evaluated are having effects on the outcomes of interest. The types of outcomes might range from attitudes and behaviors of the targeted population to the effects on the clinical health of those being served. The seven programs being supported by the Tobacco Settlement funds are extremely diverse, and therefore, the outcomes of interest for these programs also vary widely.

Long-term goals for each program were defined in the Act, which provide guidance for identification of measurable outcomes for the programs (see Chapter 2). We developed outcome measures in consultation with the programs' staff and the Tobacco Settlement Commission. In this Chapter and Chapter 11, we present the results of our first analyses of trends in these measures and possible effects of the programs on those trends. Effects of program activities on smoking outcomes are examined in this Chapter, and effects of programs that directly target other outcomes are examined in Chapter 11.

Assessment of program impacts requires the ability to connect the effort undertaken by a program to the expected outcome in a way that takes into account other factors that influence the outcome. If this is not done, changes in an outcome could be attributed incorrectly to a program's interventions when in fact the changes were due to other factors. Such factors include the following:

- Broader (nationwide or regional) trends that are independent of local program efforts
- Continuation of trends that pre-date the program initiation and reflect effects of earlier actions or interventions
- Changes in the demographic composition of the population
- Efforts by other related programs

Assessment also requires that findings be presented with an indication of how precise the findings are. Whenever survey data is collected and statistics are used, it is important to not only report how large an impact is found, but also the degree of certainty. This can be reported as a margin of error (+/- so many percent), as a confidence interval (the narrower the interval, the more precise the estimate), or as a significance level on a hypothesis test (whether or not the finding is reliable or could be expected by chance). Without this additional information, the reader does not know whether an apparent impact is likely to be the reflection of changes in the underlying behavior or merely the result of variability in the data or model.

Throughout this Chapter and the next, we focus on outcome measures for the entire target population rather than for program participants. For example, we measure changes in smoking rates for all adults in Arkansas rather than for a group who participated in a particular education or cessation program. In many cases the target population is restricted to a particular demographic group such as youth or a geographic region such as the Delta, but in all cases we measure outcomes for the target population rather than program participants.

There are several reasons for this approach. First, some program components, either alone or with other components that have similar goals, have sufficient size that an impact should be measurable at a population level. In such a case, it is important to demonstrate that the program

affects a broad segment of the population. Second, some components, such as media campaigns and other educational outreach efforts do not have participants *per se*, but are targeted at everyone in a target population. Third, many programs have an impact that extends beyond the immediate participants. Programs that attempt to change behavior through education can affect the behavior and health outcomes of many people who are in contact with the immediate participant.

Finally, and perhaps most importantly from an evaluation standpoint, it is very difficult to distinguish between pre-program tendencies and the impact of the program treatment when looking at outcomes for program participants. The people who participate in a specific program frequently are the most motivated individuals in the population, and many would improve their outcomes even without the program.

Only through comparison to a control group or through careful statistical modeling can it be determined whether the good outcomes for a group of participants are due to the program or simply reflect a program that has enrolled highly motivated individuals. Creating a randomized control group is neither cost-effective nor politically feasible. Collecting voluminous background information on participants to use in statistical modeling is also expensive and intrusive. Therefore, we focus our outcomes evaluation on programs that we judge to be sufficiently large to have a measurable impact on an identifiable target population and for which we have population outcome measures.

HIGHLIGHTS OF FINDINGS ON SMOKING OUTCOMES

We highlight here some of the findings from our first analysis of program effects on outcome measures. Many of these results are still inconclusive for the following reasons:

- *Programmatic lags.* It often takes a year or so after programs are approved before they are fully funded. It takes another year or so for programs to be staffed and implemented. Therefore, people are not being influenced directly by program activity until at least two years after the programs are approved. In particular, the ADH tobacco prevention and cessation activities have been in operation only since mid-2002, and it did not reach its full scope of programming until early 2003. This startup period is shown clearly in early trends for both program activities and spending. Therefore, we have very limited data on outcomes, and more time will need to pass before effects of many of the program activities can be realized.
- *Programs have a cumulative effect.* Prior research has shown that tobacco control expenditures have a cumulative effect. Therefore, the impact is modest and difficult to detect in the early years but larger and easier to detect after the program has been implemented for several years. This cumulative effect is often modeled as a change in the trend of percentage of smokers or cigarette consumption rates. Because many of our indicators are survey based and therefore contain sampling error, it is not possible to detect small effects with confidence.
- *Data lags.* Some of the data that are used to measure cigarette require collection and processing. Cigarette sales data are available almost immediately, but survey data on adult smoking prevalence requires several months to process. Survey data on youth smoking prevalence are only collected every other year.

- *Scope of programming.* Even at full capacity, many of the programs are reaching only a fraction of the total state population, so they may have significant local impact but much less impact statewide.

Overall Effects on Smoking Trends

The effects addressed here are changes in overall smoking behavior across the state's population, which are influenced collectively by the various actions taken to affect this outcome, including tobacco taxes, the Tobacco Settlement programs, and other unidentified factors. Most of the survey and sales data indicate that trends in smoking behavior that began prior to the onset of Tobacco Settlement programs are continuing with little or no change:

- Given the limited amount of time and the limited amount of survey data, we cannot yet detect a change in the adult smoking rate since implementation of the Tobacco Settlement programs.
- Cigarette sales continued a downward trend that had begun before the recent tax increases and the start of the Tobacco Settlement programs. This trend could mean that smokers are smoking less now, on average, or it could reflect increased transport into Arkansas of cigarettes purchased out of state in response to the tax increases.
- The limited evidence we could develop with available data suggests that smoking rates by youth began to decline in 1999 and continued declining through 2003, with no change in trend as the Tobacco Settlement programs began operation. Our analysis of these rates was hampered by the recent low response rate in the 2003 survey of youth (YRBSS).
- Other sources of data suggest that the Tobacco Settlement programs have begun to have a positive effect on smoking behavior in Arkansas:
  - The percentage of pregnant women who reported they smoked in 2003 was less than expected from baseline trends of smoking prevalence.
  - The percentage of smokers among both young adults (age 18 to 25) and teen mothers (age 11 to 18) declined below the baseline trend of declining rates in 2003.

Program-Specific Effects on Outcomes

Geographic-specific analyses were performed to attempt to identify more local effects on smoking behaviors that could be attributed to tobacco prevention and cessation activities by Arkansas Department of Health (ADH) and other funded programs. Some program effects have been observed:

- *ADH Tobacco Prevention and Cessation.* ADH activity has been distributed throughout the state, with some areas receiving substantially more services than others. At this point, it is too early to tell whether areas with greater ADH activity are experiencing greater decreases in smoking than areas with less ADH activity.
- *Services to the Delta Region.* Smoking rates in the Delta region had been increasing during the baseline period before the Tobacco Settlement programs began, but have decreased following program initiation. We do not have evidence that allows us to attribute this success to any particular program, so we tentatively conclude that it is due to the combined efforts of several programs with tobacco prevention and cessation

activities in that region, which include the Delta AHEC, the Minority Health Initiative, the ADH, and a new Center on Aging.

Interpreting the Early Outcome Evaluation Information

Throughout this chapter, the phrase "too early to tell" is a repeated refrain. Our approach to this outcome evaluation has been to design methods that can reliably detect an impact on smoking behaviors and health outcomes over time. In most cases, the programs are still too new and the survey statistics and other measures are too imprecise to detect an effect this soon after the programs started. When we report there is no evidence of a program effect, that does not mean there are no effects; it just means that it's too early to tell. As additional data become available for future years, the analysis will be better able to make finer distinctions between positive effects and no effects.

Over the next few years, not only will the programs develop more fully and have a wider impact, but new data sources will also become available to enhance the evaluation. The Adult Tobacco Survey has just completed its second wave in Arkansas and repeated implementation of this survey will provide an important source of information on changes in smoking behavior. As noted below, a recent implementation of the YRBSS, the primary survey of youth smoking behavior, had an unacceptably low response rate, but future efforts to improve collection of these data will enhance the ability to monitor youth smoking.

Similarly, the data collection process that monitors illegal tobacco sales to youth has undergone changes in recent years that make it difficult to determine whether there have been improvements in this area. Continuation of its current data collection methods in future years will provide useful information. It is crucial that the various agencies be provided the resources needed to collect reliable data so the effects of the programs can be detected.

Health outcomes will become increasingly important to monitor as time passes. Changes in smoking behavior should begin soon to have a measurable impact on the health of Arkansans, and many of the Tobacco Settlement funded programs also are working to directly improve health status in other ways. In this report, we have analyzed a limited number of health indicators from two data sources (birth certificate data and hospital discharge records). In the future, it will be informative to expand this analysis to detect changes in a wider variety of health outcomes that will be affected over the next few years using additional data sources such as death certificate data and Medicaid claims records. Only through careful analysis of a rich assortment of health outcomes data can it be determined whether the wide range of tobacco settlement programs are fulfilling their potential in changing the wellbeing of Arkansans.

We start our evaluation of smoking outcomes by presenting results of our analyses of statewide trends in smoking behavior. This is followed by analyses of geographic-specific effects on outcomes, which we designed to attempt to identify the contributions of specific programs to changes in smoking outcome. Next, we focus on the smoking outcomes in the Delta region, which was targeted for services by many of the Tobacco Settlement programs. We conclude with a discussion of baseline information and future analysis of short-term health outcomes we have identified as being related to smoking behaviors.

STATEWIDE TRENDS IN SMOKING BEHAVIORS

In this section, we examine statewide trends in smoking behaviors and we assess the extent to which there have been any changes in those trends since the inception of the programs supported by the Tobacco Settlement funds. We assess overall effects on smoking behavior outcomes because a substantial share of the Tobacco Settlement funds are targeted to prevention and cessation of smoking, not only in the ADH program but also in other funded programs.

Our approach to the analysis is guided by the conceptual model presented in Figure 10.1, which defines a continuum over time of outcomes that should occur in response to educational and treatment interventions to reduce smoking rates. The first outcome we would expect to observe is a decline in self-reported smoking, which then should be followed by a decline in sales of tobacco products. As smoking rates decrease, we then should see reductions in short-term health effects of smoking, such as low birth weight infants or hospital stays due to asthma exacerbations. Finally, effects on longer-term health status will occur later, for example, in reduced incidence of cancers or heart disease.

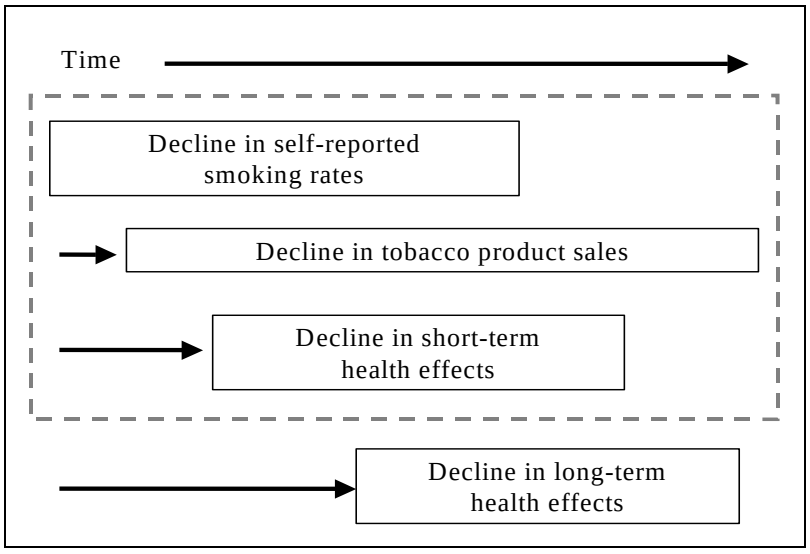


Figure 10.1 Conceptual Model of Behavioral Responses for Smoking Cessation

Because the Tobacco Settlement programs are still new, we focus our analysis on the earliest outcomes that are expected to be observed. These include self-reported smoking rates by adults and youth, sales of cigarette products, and compliance rates with prohibitions on sales of tobacco products to youth. We also compare the results of our analyses with those presented by The Gallup Organization in its report that was developed for its evaluation of the Tobacco Prevention and Cessation program, under contract to the ADH.

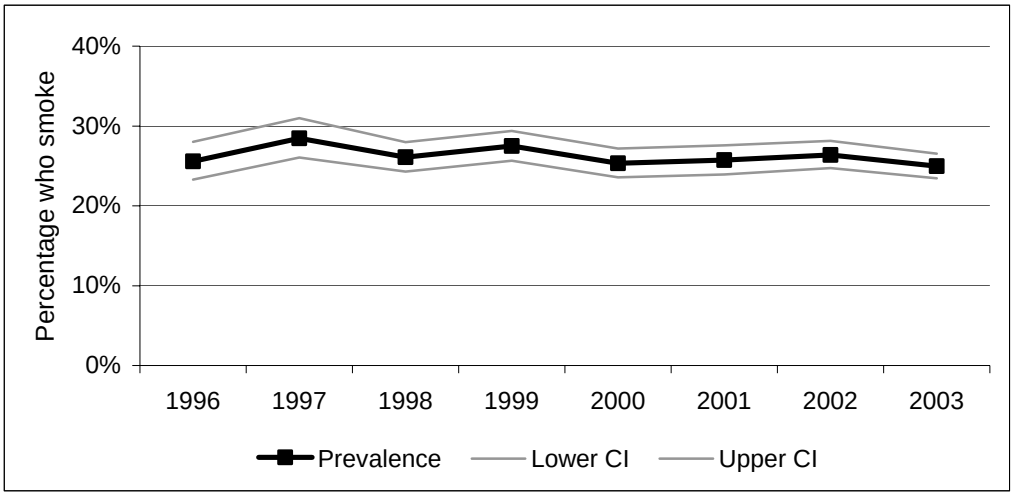
The two most common measures of smoking behavior are the prevalence of adult smoking as measured by the Behavioral Risk Factor Surveillance System (BRFSS) and of youth smoking as measured by the Youth Risk Behavior Surveillance System (YRBSS). The BRFSS is an annual telephone survey of randomly selected adults throughout the country that is coordinated by the U.S. Department of Health and Human Services Centers for Disease Control and Prevention (CDC). The precision of the information available from this survey depends on the

number of people who are surveyed. The sample size in Arkansas has ranged from less than 2000 in 1995 to more than 4000 in 2003, so precision has increased. The YRBSS is a nationwide survey of students in schools, also coordinated by the CDC, that is performed every other year. It provides valuable information on smoking behavior of youth for the past decade. Unfortunately, a low response rate in Arkansas to the 2003 survey dictates that this most recent data be interpreted with caution, as it may not be representative of Arkansan youth.

Percentage of Adults who Smoke

Key finding: Given the limited amount of time and the limited amount of survey data, we cannot yet detect a change in the adult smoking rate since implementation of the Tobacco Settlement programs.

Figure 10.2 reports the estimated percentages of adults in Arkansas who reported they smoked, for each year from 1996 through 2003, based on the BRFSS survey data. These rates are the percentage of adult Arkansans who reported that they smoke "everyday" or "some days" in response to the survey question, "Do you now smoke cigarettes everyday, some days, or not at all?" We also report the upper and lower limits of the 95 percent confidence intervals for these estimates.[14] As can be seen, the prevalence rate of smokers has moved up and down within a narrow range over these years, with no apparent downward trend. As shown by the confidence intervals, estimates from year to year are not so different that they fall outside of the confidence intervals of previous years' estimates. Therefore, differences are likely due to error caused by the manner in which people were sampled rather than real changes in the percentages of the population who smoke.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

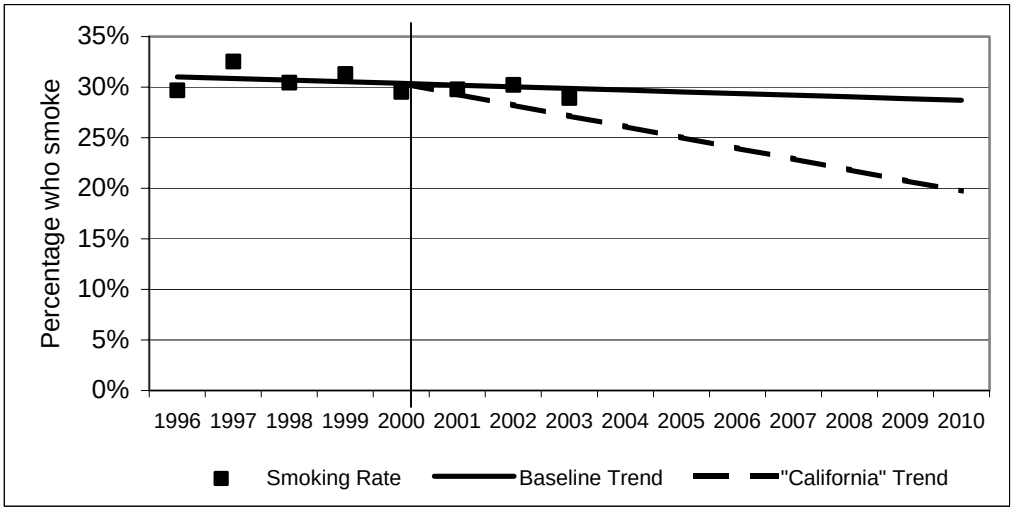
Figure 10.2 Percentage of Adults in Arkansas who Smoke, 1996 through 2003

[14] These confidence intervals define a range within which estimated values would fall 95 percent of the time for survey samples if the survey were repeated over and over again, that is, where there is 95 percent confidence that the true value lies within that range. Estimates with wider confidence intervals must be interpreted with caution because apparent differences in values might not be statistically significant.

One goal of the outcome evaluation is to answer the question: *"How do changes in smoking rates since the Tobacco Settlement programs began compare to what would have happened to smoking rates if these programs had not been established?"* We cannot attempt to answer this question with the simple graph of rates shown in Figure 10.2 because it only describes what rates were for each year. Rather than focus on any one year, we want to compare recent rates, since the Tobacco Settlement programs began operation, to trends of what the rates might have been without the programs.

When projecting trends of smoking rates, we want to adjust for factors that influence smoking rates that are independent of program activity. Data are available to be able to adjust for some of these factors. For example, it is well established that various demographic groups have different smoking rates. Therefore, any changes in the demographic composition of the state could change the smoking prevalence rate even if the same percentage of people in each demographic group continued smoking. In order to better understand the impact of the Tobacco Settlement programs on smoking rates, the estimated smoking prevalence can be adjusted to account for the effects of changing demographics over time.

Figure 10.3 graphs the percentage of smokers each year after accounting for changes in population demographics over time. The characteristics we controlled for included gender, age and race/ethnicity. The adjusted prevalence rates are the points plotted on the graph for each year.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

Figure 10.3 Percentage of Adults Age 18 and Over in Arkansas who Smoke, Adjusted for Changes in Survey Sample Demographic Characteristics

The graph includes a slightly downward sloping dark line that shows the trend in smoking prevalence rate before the Tobacco Settlement programs began, which we call the "baseline trend". This trend came from data for the years before the Tobacco Settlement funding. In Figure 10.3, the trend is extended through the later period to estimate what the smoking rate would be each year if the baseline trend continued. The vertical line on the graph signifies the start of the Tobacco Settlement programs. For the baseline period of 1996 through 2000, the

percentage of smokers in the state was virtually constant, after controlling for demographic effects. As can be seen in Figure 10.3, the deviations from this trend in years following program implementation are very small, and statistical analysis indicates they are not meaningful.

We also include a hypothetical trend that indicates the predicted smoking rates if Arkansas' anti-smoking programs and policies are as successful as those in California. California experienced a 0.9% acceleration in its downward smoking trend during the first ten years of its program.[15] We include this line for two reasons. First, the line provides a prediction of the impact that can be expected from a successful program. The impact is very small in the first few years, but the cumulative effect will cut smoking rates by almost one-third after ten years. Second, the two trend lines emphasize the limits of evaluation at this time. The smoking rate in 2003 is no farther from the California trend than many of the pre-program rates are from the baseline trend. It is not yet possible to determine whether recent smoking rates are following the old baseline trend or a new trend that would indicate success. The success of the programs and policies in Arkansas will be more easily verified as the two trends diverge in the next few years.

Amount of Cigarette Consumption Per Adult Arkansan

Key Finding: Cigarette sales continued a downward trend that had begun before the recent tax increases and the start of the Tobacco Settlement programs. This trend could mean that smokers are smoking less now, on average, or it could reflect increased smuggling of cigarettes purchased out of state due to the tax increases.

The amount of cigarettes consumed by smokers can be measured in two ways. First, people can be asked how much they smoke using surveys such as the BRFSS. Unfortunately, the BRFSS stopped asking this question in 2000. Second, information on cigarette sales can be used to calculate consumption rates. Ideally, such rates should be calculated using the number of smokers in the state as the denominator. Because we did not have data on the counts of smokers, we used the total state adult population as the denominator, which we measured as the population over age 15.[16]

Figure 10.4 shows that the average amount of cigarette consumption per capita has been declining since 1998. The individual points on the graph are the cigarette sales per capita for each month. The vertical lines on the graph identify the two dates that the state excise tax increases went into effect. Using these cigarette consumption data points for the pre-tax increase period of January 1998 through June 2001, we estimated a baseline trend line of cigarette consumption per capita. This trend line, when projected into future time periods, is an estimate of what cigarette consumption would have been in subsequent years if the baseline trends had continued without the introduction of tax changes or tobacco prevention and cessation interventions.

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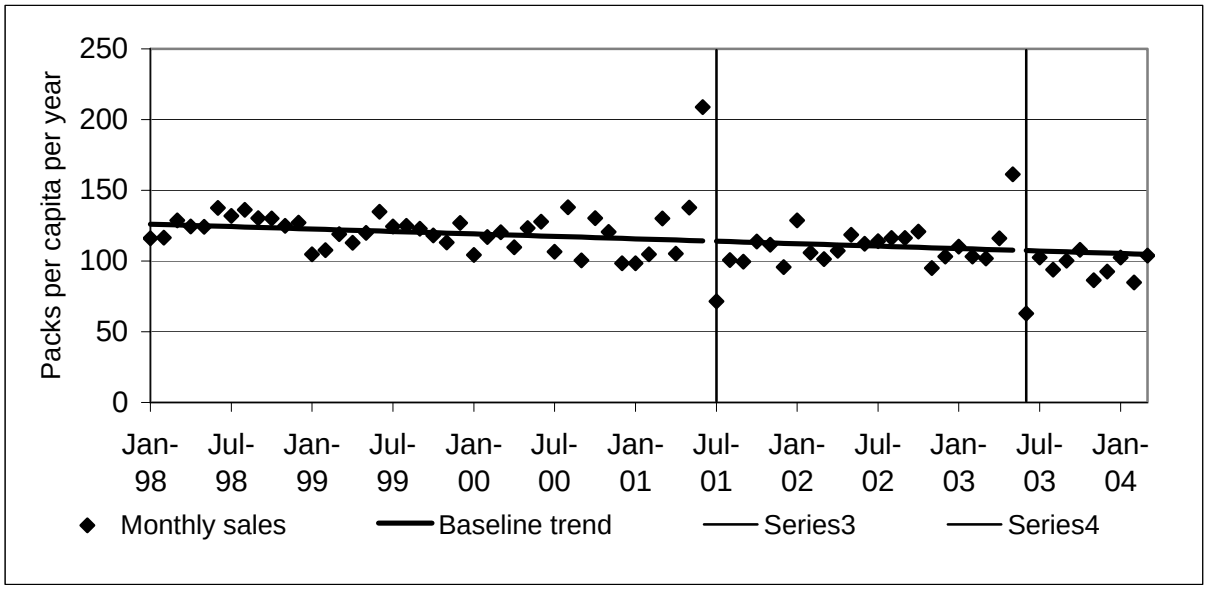
[15] *Adult Smoking Trends in California*, California Department of Health Services, http://www.dhs.ca.gov/ps/cdic/ccb/tcs/documents/FSAdulttrends.pdf

[16] These rates are lower than rates based on just smokers because the cigarette consumption is spread across the larger population. The measure also may be inaccurate due to some error in the cigarette consumption figures related to illicit purchases and inter-state purchases of cigarettes. However, cigarette sales are the only data available for both baseline years and the period when the Tobacco Settlement programs were operating.

The trend line, which is shown as the declining straight line on the graph, represents an average 3 percent decline in cigarette consumption per capita each year. Taxes increased from 31.5 cents per pack to 34 cents per pack in July 2001 and to 59 cents per pack in June 2003. Consumption data are the points plotted on the graph for each month. As can be seen by comparing the points of actual data to the trend line, our analysis did not find any change in the trend as the tobacco prevention and cessation activities began operation. The trend remained nearly constant overall, despite some short-term increases in sales just before (and subsequent short-term decline in sales immediately following) the enactment of higher taxes in 2001 and again in 2003. Following the June 2003 increase, sales frequently fell below the projected trend, but this downward deviation is not sufficiently large to indicate a significant change in the trend.



Source: RAND analysis of monthly tax receipts (provided by Office of Excise Tax Administration, Arkansas Department of Finance) and population estimates from the U.S. Census Bureau. Monthly figures are multiplied by 12 to correspond to an annual consumption rate.

Figure 10.4 Number of Packs of Cigarettes Sold per Arkansan, Age Fifteen and Older

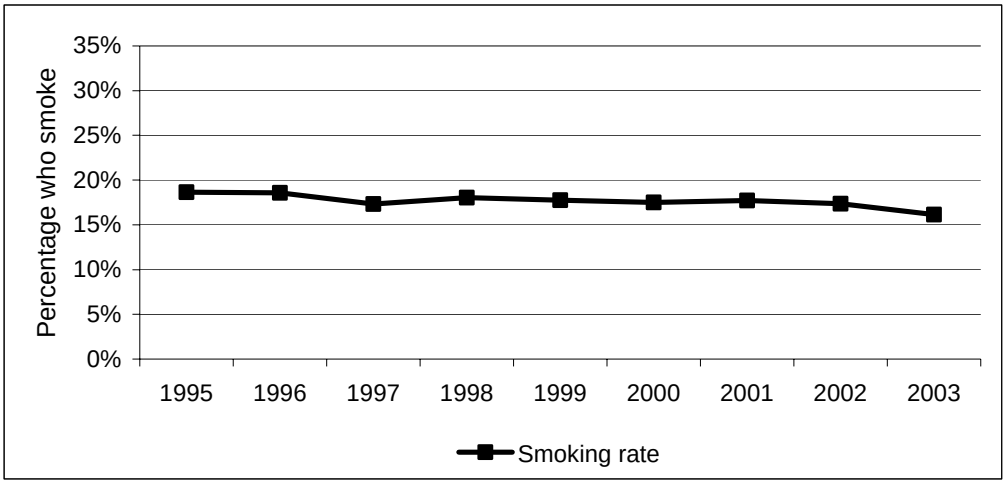
The combined findings regarding trends in the percentage of Arkansans who smoke and the average cigarette consumption per capita suggest that the prevalence of smokers is not changing, but that the number of cigarettes smoked by the average smoker may be declining. An alternative explanation that must be considered, however, is a different type of behavioral response to the tax increases. Higher taxes on cigarettes may have led to reductions in within-state cigarette purchases, to be replaced by smuggling into Arkansas of cigarettes purchased in surrounding states, all of which have considerably lower tax rates. Unfortunately, without independent information regarding consumption, it is not possible to disentangle the relative contribution of reduced smoking or out-of-state purchases of cigarettes to the observed reductions in cigarette sales.

Percentage of Pregnant Women who Smoke

Key Finding: The percentage of pregnant women who reported they smoked in 2003 was less than expected from baseline trends of smoking prevalence.

The subpopulation of pregnant women is of interest for evaluation purposes because smoking poses great medical risks during pregnancy, especially to the fetus. Furthermore, good data are available to analyze smoking patterns because every woman who delivers a child is asked whether she smoked during the pregnancy. Since pregnant women are exposed to many of the same programming influences as the general population (e.g., education, media campaigns), the information collected about their behavior can be used to provide insights on smoking outcomes that are unobtainable from the more limited data on the general population.

Figure 10.5 shows for each year from 1995 through 2003 the percentage of pregnant women who smoked during pregnancy, which is based on information reported on the application for a birth certificate. These numbers do not contain sampling error because they are the actual prevalence rates for everyone in this group. Therefore, no confidence intervals are needed to indicate the precision of the information, which would be necessary if the data had come from a random sample. The annual rates show a slight downward trend in the percentage of pregnant women who smoke from the mid-1990s to the early 2000s.



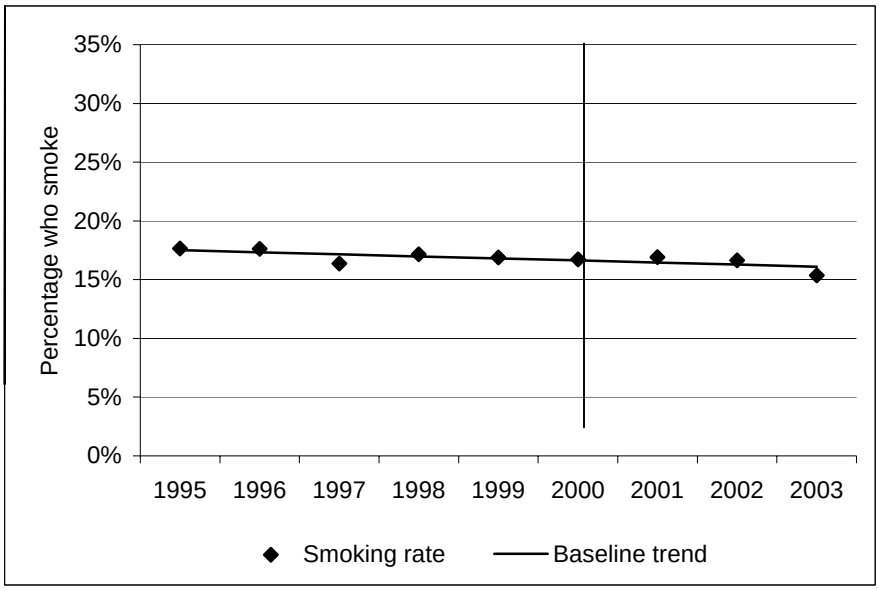
Source: RAND analysis of Birth Certificate micro data files

Figure 10.5 Percentage of Pregnant Women in Arkansas who Smoke, 1995 through 2003

As discussed above for the prevalence of adult smokers, observed changes over time in the percentage of pregnant women who smoke could be explained simply by changes in their demographics, rather than by changes in smoking behaviors. Therefore, we estimated a baseline trend in smoking prevalence before the Tobacco Settlement programs began, adjusting for changes in demographics. This trend line is extended through the later period to provide an estimate of what the smoking rate would have been if that trend had continued.

Figure 10.6 presents the adjusted prevalence rates and the estimated baseline trend, which indicates that smoking prevalence among pregnant women has been decreasing, albeit very slowly. Over the six-year baseline period, smoking decreased approximately one percentage

point, which is equivalent to a reduction of smoking of one percent per year. This trend of declining prevalence is statistically significant. Comparing this trend (indicated by the trend line in Figure 10.6) to prevalence rates (indicated by the points in Figure 10.6) during the period that Tobacco Settlement programs were in operation, we find that smoking by pregnant women was slightly above expected rates in 2001 and 2002 and slightly below the expected rate in 2003. The lower rate in 2003 is approximately three quarters of one percentage point below the trend and is statistically significant.



Source: RAND analysis of Birth Certificate micro data files

Figure 10.6 Adjusted Pregnant Women Smoking Prevalence in Arkansas, Adjusted for Demographic Changes, 1995 through 2003

Percentage of Youth who Smoke

Key Finding: The limited evidence we could develop with available data suggests that smoking rates by youth began to decline in 1999 and continued declining through 2003, with no change in trend as the Tobacco Settlement programs began operation. Our analysis of these rates was hampered by the recent low response rate in the 2003 survey of youth (YRBSS).

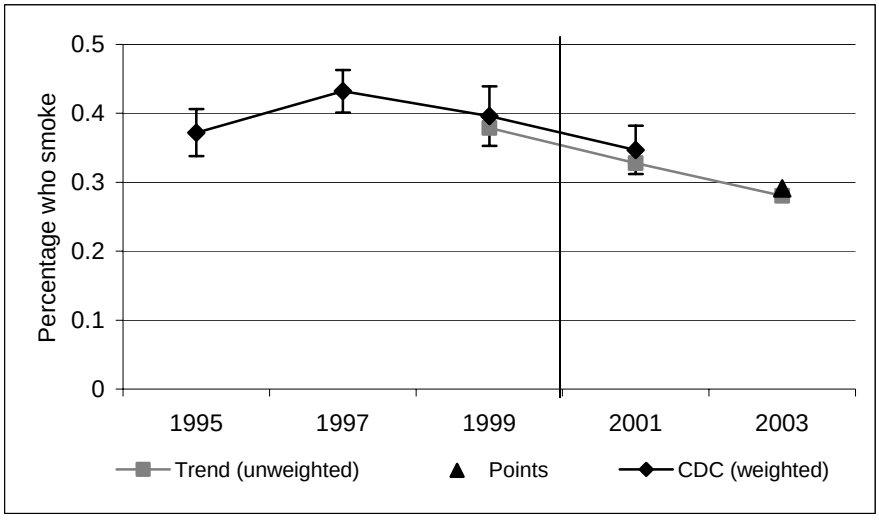
Separate analyses indicate that the percentage of smokers among both young adults (age 18 to 25) and teen mothers (age 11 to 18) have declined below the baseline trend of declining rates since the Tobacco Settlement programs have been in operation.

The Youth Risk Behavior Surveillance System is done in odd numbered years. Unfortunately, the response rate in Arkansas for the 2003 survey was less than 50 percent. When a state's response rate is below 60 percent, the CDC guidelines prohibit the agency in charge of the data from attempting to weight the survey to produce statistics that are representative of the population, because of concerns that the sample is unrepresentative in ways that weighting

cannot fix. We have obtained a copy of the unweighted data and have performed an analysis that adjusts for the age, race and sex composition of the sample. We present this analysis with the caveat that the data are of unknown reliability due to the low response rate in 2003.

Figure 10. 7 presents the official CDC youth smoking prevalence rates (weighted) for Arkansas for 1995 through 2001 as well as our analysis of unweighted data for 1999 through 2003. Our unweighted analysis is limited to these years because we could not obtain the data files containing the individual survey responses for the earlier years. The CDC statistics that use only the weighted data indicate a downward trend that began in 1997 and continues through 1999 and 2001 (diamonds). Over this period, smoking rates among youth dropped from 43 percent to 35 percent. Our analysis, in which we use the unweighted data but adjust for the demographic composition of the youth population, indicates a very similar change from 1999 to 2001 (squares), continuing in 2003. We estimate that the adjusted smoking rate in 2003 was 29 percent (triangle), which is almost identical to the prediction of 28 percent (square) obtained by extending the 1999-2001 trend from the unweighted data forward in time to 2003. Therefore, downward trend in youth smoking that started in 1997 continued after the Tobacco Settlement programs started operation. What the data do not allow us to answer is whether the decline in smoking would have slowed or stopped in the absence of interventions from the new programs or whether the programs have not yet had any effect on the continuing trend.

We emphasize that our estimate of the adjusted smoking rate in 2003 should be treated with caution due to the low response rate in the Arkansas YRBSS that year. It is well established in survey research that low response rates often lead to biased results because those who do respond to the survey tend to be a self-selected group that do not represent the larger population. We recommend that the state put the necessary resources into data collection to assure that the response rate in 2005 is adequate to track youth smoking accurately.

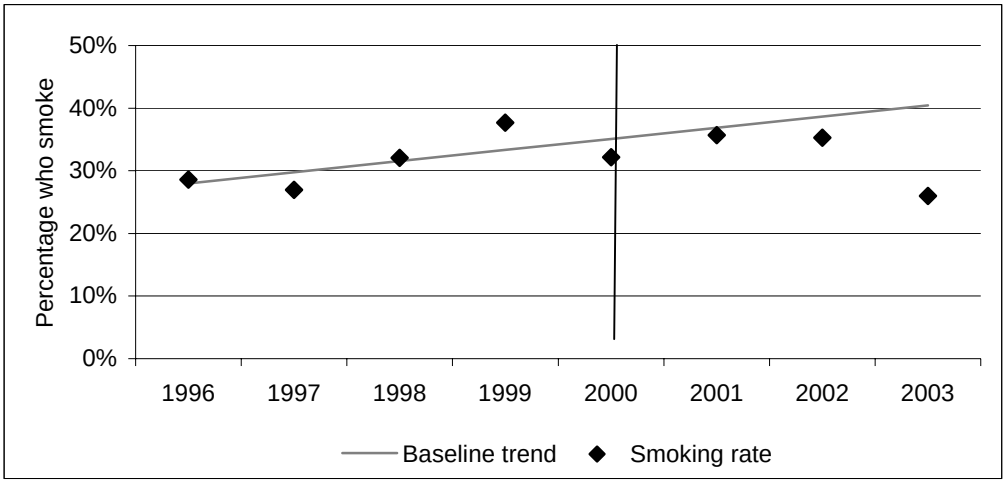


Sources: CDC reports of YRBSS Arkansas Sample and RAND Analysis of YRBSS Arkansas Sample

Figure 10.7 Youth Smoking Rate, Unadjusted and Adjusted for Demographic Changes, 1995 through 2003

We were able to examine the prevalence of smokers in young populations using two other data sources that provide additional insights to what can be obtained from the YRBSS data. We used a subset of the BRFSS sample to analyze smoking rates for the youngest age group of adults, those age 18 to 25 years. In addition, we used birth certificate data to analyze smoking for pregnant teenagers of the ages 11 to 18 years.

The estimated baseline trend for young adults and deviations from what would be expected if that trend were to continue are presented in Figure 10.8. Again, the vertical line on the graph signifies the start of the Tobacco Settlement programs. The trend line shows that the percentage of young adults who smoked increased over time during the baseline period from 1996 through 2000. We extrapolated this trend to later years, comparing it to the prevalence of young adult smokers reported in the BRFSS data for those years (represented by the diamond points). The results indicate that the smoking rate for the youngest adult age group in 2003 was 14 percentage points lower than would be expected based on the baseline trends, a difference that is statistically significant.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

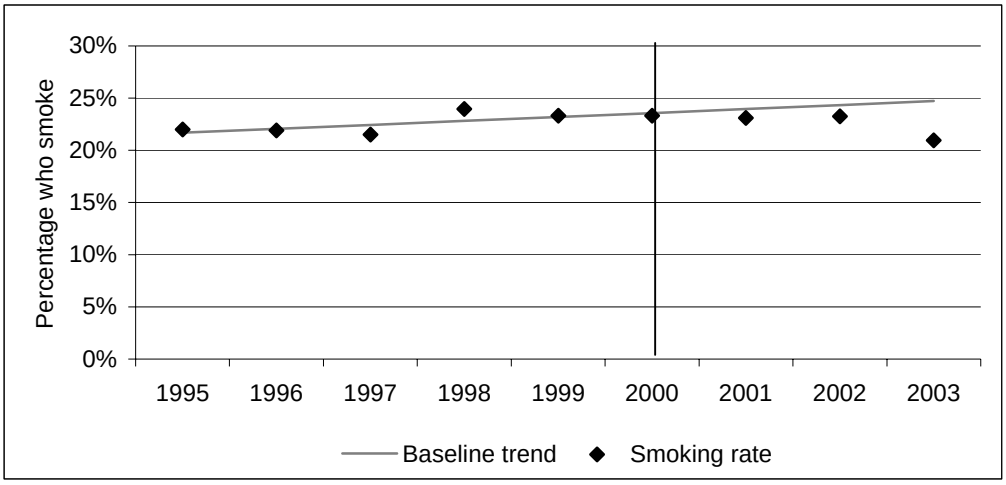
Figure 10.8 Adjusted Prevalence of Smokers for Young Adults in Arkansas, adjusted for demographic changes, Age 18 to 25 years, 1996 through 2003

The results of a similar analysis for pregnant teenagers are presented in Figure 10.9. The baseline trend line shows that the percentage of pregnant teenagers who smoked also increased over time during the baseline period, at a predicted rate of approximately four tenths of a percentage point each year. Extrapolating this trend into later years, we estimated that the reported smoking rate for pregnant teenagers in 2003 (represented by the diamond points) was almost four percentage points below the rate that would be predicted based on the baseline trend, a difference that is statistically significant.

Enforcement of Laws Forbidding Sales of Tobacco Products to Minors

Key Finding: Changes in data collection methodology make it impossible to detect any changes in violation rates of laws forbidding sales to minors.

Another measure of the effectiveness of educational and outreach efforts by the Tobacco Settlement programs is the trend in compliance with laws that forbid the sale of tobacco products to minors. The Synar data record the compliance of merchants as measured by inspections carried out by undercover underage purchasers. These inspections are carried out at randomly selected stores, with the goal of providing an unbiased estimate of the compliance rate among merchants within the state.



Source: RAND analysis of Birth Certificate micro data files

Figure 10.9 Adjusted Prevalence of Smokers for Pregnant Teens in Arkansas, adjusted for demographic changes, Ages 11 through 18, 1995 through 2003

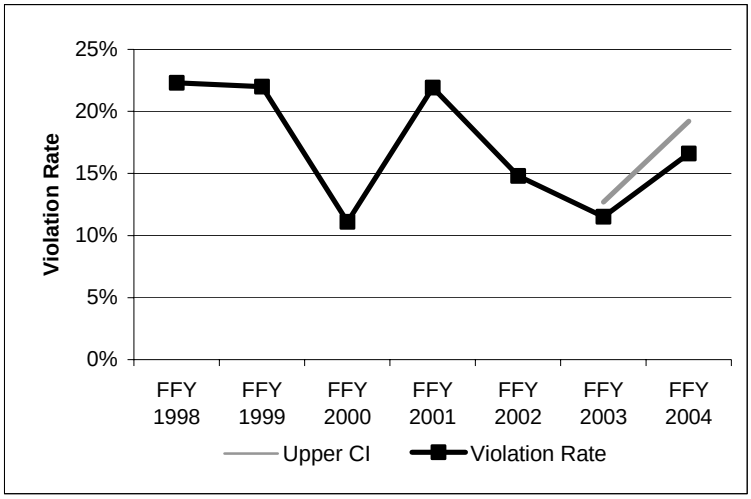
Figure 10.10 provides the violation rate from federal FY (FFY) 1997 through FFY 2004.[17] The results of the Synar inspections have produced violation rates that vary widely from year to year. Confidence intervals, important measures of precision of the data, are only available for the last two years of the series, but they suggest that the variation in the violation rates cannot be attributed to the margin of error due to random sampling. Furthermore, the lack of a trend in the rates suggest that the violation rate changes are more likely due to abrupt changes in the data collection methods rather than gradual progress in compliance.

One possible explanation is that differences in the ages of inspectors over time accounts for some of the increase in the violation rate between FFY 2003 and FFY 2004. Our analyses showed that only 24 percent of inspectors were sixteen years of age or older during FFY 2003 inspections, whereas 44 percent of inspectors were sixteen or older during FFY 2004 inspections. Although the Center for Substance Abuse Prevention's official guidelines governing data collection require that inspectors be at least 15 years old, the US GAO recommends that inspectors be at least sixteen years of age, in order to provide a valid test of whether merchants

[17] The state reports it Synar data to the federal government by federal fiscal years. Therefore, we also use federal fiscal year in presenting results of our analyses of the Synar data; all other analyses are reported by Arkansas fiscal year.

request proof of age from purchasers near the minimum age (see the GAO report at http://www.gao.gov/new.items/d0274.pdf).

Our analysis of the inspection records indicates that when the age of the inspectors are accounted for, the increase in violation rate from FFY 2003 to FFY 2004 is not statistically significant. Therefore, we recommend that the Synar data be monitored in future years, taking care to account for changes in data collection methods. We do not believe that the increase in the reported violation rate from FFY 2003 to FFY 2004, in itself, is cause for concern. We encourage the state to continue the improved data measures that were implemented with the FFY 2004 data collection so that future comparisons will be more reliable.



Notes: Inspections occur during the summer of the preceding calendar year. For example, FY 2004 violation rate is calculated from inspections primarily conducted during May and June, 2003.

Sources: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA) web site, and the Arkansas Annual Synar Reports for FFY 2003 and 2004. [18]

Figure 10.10 Compliance Rates for Not Selling Tobacco Products to Minors, FFY 1997 through FFY 2004

DISCUSSION OF OUTCOME ANALYSES BY GALLUP

Key Finding: The Gallup Organization has produced useful reports that present comprehensive evidence regarding progress of the tobacco prevention and education programs. Their analysis of the outcomes data could be improved by including more detail regarding the precision of their findings and consistently placing their analysis in the context of long term trends.

[18] The SAMHSA website is http://prevention.samhsa.gov/tobacco/01synartable.asp, and the Synar reports are on http://www.state.ar.us/dhs/dmhs/2003%20Annual%20Synar%20Report.doc and http://www.state.ar.us/dhs/dmhs/2004%20Annual%20Synar%20Report.doc

The RAND Corporation has been charged with evaluating all activities conducted under the auspices of the Tobacco Settlement project. The Gallup Organization has a contract with the Arkansas Department of Health that is funded by Tobacco Settlement funds to provide evaluation assistance to local efforts and to evaluate the department's progress in their prevention and education efforts. Therefore, we have an obligation to assess the evaluation activities of Gallup just as we are assessing other Tobacco Settlement programming activities. A review of Gallup's evaluation of the ADH tobacco prevention and cessation program activities is contained in Chapter 3. The following is a review of Gallup's analysis of outcomes data.

The Gallup Organization has provided some outcomes information in two documents, both entitled "A Progress Report Card," dated January 2003 and 2004. The Report Cards discuss many of the program activities that the Department of Health Tobacco Prevention and Cessation Programs (TPEP) have undertaken. Gallup also reports statistics that are compiled from the BRFSS and similar surveys as evidence of the impact of these programs.

In some cases, Gallup has presented findings of a positive program impact that appear to contradict our conclusion that there is not yet sufficient evidence to detect a program impact at this time. This difference can, in part, be attributed to the difference in our approaches. The RAND evaluation is using outcome analysis methods that presume there is no program impact unless the data provide quantifiable evidence of an impact based on changes in trends in smoking behaviors over a time period of several years. We base our conclusions on the stringent requirements of formal statistical methods for outcome evaluation.

Gallup, on the other hand, is starting with the presumption that quality programming will yield a positive impact on outcomes, which is based on their experience with smoking cessation efforts around the country and on scientific studies of such efforts. They present analyses of a wide array of data, each of which provide some evidence that Arkansas programs are having a positive impact. Because they are aiming their presentation at a wide audience, their report does not use measures of precision such as tests of statistical significance or confidence intervals. Their presentation supports their conclusions and recommendations with a less formal analysis of the data.

Given these methodological differences, it is not surprising that differences arise between the RAND and Gallup findings. In several cases, Gallup presents data that they interpret as evidence of improvement in outcomes, but RAND does not find that the data provide sufficient evidence to report a positive impact. In the following paragraphs, we discuss some of the apparent discrepancies between our analyses and Gallup's findings. In general, the Gallup analysis is well presented and informative. However, in the following critique, we focus on the situations in which we believe Gallup has overstated the evidence of a positive program impact.

Gallup discusses adult smoking prevalence several places in their 2004 Progress Report Card. Their report presents a graph of smoking rates for ten years (p. 14) and a discussion that includes reference to the lack of a statistically significant decline (p. 11). This information and discussion is informative and useful. However, Gallup's discussion of the adult smoking prevalence in the section entitled "Comparison of Arkansas with California Trends" (p. 12, *A Progress Report Card*, Final Draft Report January 2004) could lead to some confusion. In their section that makes a comparison to California's long run decline in smoking, the Gallup report chose two particular years from the Arkansas experience. The bulleted item on page 12 of their report states, "In Arkansas, the adult smoking prevalence declined from 27.3 percent in 1999 to

26.3 percent in 2002 for an average rate of decline of .3% per year." Although these calculations are mathematically correct, without accompanying statistics of precision, they potentially mislead the reader to think that this decline is meaningful when it is not.

As can be seen in our Figure 10.2, the difference between the 1999 rate and the 2002 rate is not statistically significant (i.e. the difference is within the margin of error). Furthermore, using either 1998 or 2000 as the base year, rather than 1999, dramatically changes the conclusion. Using either 1998 or 2000 as the base year for Gallup's calculation would suggest that smoking *increased* rather than decreased during the beginning of its ATS programming. We believe neither conclusion is warranted. To reliably detect a programmatic impact using survey data, it is necessary to look at a longer time period both before and after program implementation.

Gallup's discussions of youth smoking prevalence (*Key Findings: 2003*, p. 3; *Youth Prevalence*, p. 11; *Prevalence of Youth Smoking* Figure, p. 15) all emphasize the "decline in youth smoking to 29.3 percent" in 2003. As we discuss above, this figure makes use of the 2003 YRBSS survey, which had a response rate of less than 50 percent and therefore may not be representative of the Arkansas youth population. The CDC recommends that these unweighted estimates should not be used to measure statewide smoking rates and should not be compared to earlier weighted estimates from surveys with higher response rates. We agree with Gallup that the 2003 data are sufficiently informative that they should be reported, but it is important to include the necessary caveats regarding data limitations.

Gallup cites a decline in the Synar violation rate from 14.8 percent in federal FY 2002 to 11.2 percent in federal FY 2003 as evidence of the success of the Tobacco Settlement programs in reducing sales to minors (*Key Findings: 2003*, p. 3; *There has been a reduction in sales of tobacco to minors*, p. 9). As shown above in Figure 10.10, these are merely two points in a data series that over many years has had many sharp increases and declines, including a recent increase in the violation rate in 2004. As stated above, changes in data collection methods in recent years make these data difficult to interpret and should only be reported in that context.

Gallup claims "there has been an acceleration of decline in Arkansas's per capita cigarette consumption with the introduction of tax increases over the last decade and most recently between 2001 and 2002." (p. 9, *A Progress Report Card*, 2004) However, the supporting data is a graph on p. 16 of its report that shows a steady downward trend rather than acceleration in that trend. The drop from 2001 to 2002 is preceded by a sharp increase from 2000 to 2001, suggesting an erratic data series rather than a change in underlying behavior. Gallup further discusses consumption, also without mention of precision or significance, in its section comparing Arkansas to California (p. 12). This comparison is again based on just two years, which is too short a time to provide information about a sustained trend.

Our analysis of consumption based on Arkansas Department of Finance cigarette excise tax collections (Figure 10.4) suggests there is a significant downward trend of 3 percent per year, which is less than Gallup's reported trends in California and Arkansas of approximately 5 percent per year. We also find no significant change in this trend after the 2001 and 2003 tax increases.

In several other of Gallup's *Key Findings:2003* (p. 3), information about margin of error is also omitted. Gallup reports changes in quit attempt rates, smoking restrictions and awareness of the SOS Media campaign. Some of these changes are small, others are large. Without information about the precision of the statistics, the reader cannot determine whether the differences are evidence of real change or merely the result of sampling error. Although these

changes are consistent with Gallup's expectation that Tobacco Settlement programming will lead to changes in important outcomes, we believe it would be useful to indicate whether the measures are sufficiently precise to provide strong evidence of improvement.

COMPARISON TO EXPERIENCES OF OTHER STATES

In general, it has taken five years from the approval of a comprehensive state tobacco control program until a positive program impact can be confidently detected with sales and survey data. Each state differs in the speed with which a comprehensive program is implemented, but the experience of the first four states with comprehensive programs shows remarkable similarity in evaluation progress, as shown in Table 10l.1. If Arkansas follows this pattern, tobacco use rates in 2005 should show positive impacts. Effects on cigarette consumption per capita should be observable soon thereafter using available sales data, but effects on self-reported smoking behaviors will not be observable until survey data for 2005 become available in Spring of 2006.

Table 10.1 Elapsed Times Until Effects of Smoking Control Programs Are Found, Comparison of Arkansas to Four Other States

State	Program Approval	Full Program Implementation	Year for Which Impact Detected
Minnesota	1985	1986	1990
California	1988	1990	1993
Massachusetts	1992	1994	1997
Arizona	1994	1997	1999
Arkansas	2000	2002	2005(?)

Source: Reducing Tobacco Use: A Report of the Surgeon General. Chapter 7 Comprehensive Programs, 2000.

GEOGRAPHIC ANALYSES FOR ADH PROGRAM OUTCOMES

Key Finding: ADH activity has been distributed throughout the state, with some areas receiving substantially more services than others. At this point, it is too early to tell whether areas with greater ADH activity are experiencing greater decreases in smoking than areas with less ADH activity.

The previous analysis examines trends in overall smoking rates across the state for various population groups, and it tests whether changes in rates of tobacco use are associated with the introduction of the programs supported by the Tobacco Settlement funds. In this section, we examine whether geographic variations in smoking trends and other outcomes are related to geographical patterns of the interventions implemented by the ADH Tobacco Prevention and Cessation program. Due to the short amount of time since introduction of the Tobacco Settlement funds, we do not expect to find large effects. However, this analysis is tailored to finding local program impacts that might be masked in the statewide data, and it will be an important portion of the outcomes analysis in future years.

Using programming information provided by the ADH, along with data on smoking behaviors from the BRFSS and birth certificates, we examined county-level associations between

levels of program effort and changes in smoking for county residents. Both the BRFSS data and the birth certificate data indicate the county of residence for the respondent. Levels of program effort are measured by spending and other measures of program activity. In addition to the county level analysis, we also aggregate programming effort to the regional level, using the Area Health Education Center (AHEC) regions of the state, which are listed in Table 10.2. We do this analysis to capture any impact of programming activities beyond the borders of the county in which an activity is centered.

We begin by estimating baseline smoking trends at the county level and the extent to which the ADH program targeted its tobacco prevention and cessation activities to counties with high or increasing smoking baseline rates. We then examine whether there is a change in county-level smoking trends after the ADH programming begins, and we examine whether the change in the trend is related to the amount of programming activity. Our hypothesis is that counties with more programming activity will have greater reductions in smoking rates.

Table 10.2 Arkansas Counties by AHEC Region

Region 1 Delta	Region 2 Pine Bluff	Region 3 S. Arkansas	Region 4 Southwest
Chicot	Arkansas	Ashley	Clark
Crittenden	Cleveland	Bradley	Hempstead
Desha	Drew	Calhoun	Howard
Lee	Garland	Columbia	Lafayette
Monroe	Grant	Dallas	Little River
Phillips	Hot Spring	Ouachita	Miller
St. Francis	Jefferson	Union	Nevada
	Lincoln		Pike
	Lonoke		Sevier
	Prairie		
	Saline		
Region 5 Fort Smith	Region 6 Northwest	Region 7 Northeast	Region 8 Pulaski
Conway	Baxter	Clay	Pulaski
Crawford	Benton	Cleburne	
Faulkner	Boone	Craighead	
Franklin	Carroll	Cross	
Johnson	Izard	Fulton	
Logan	Madison	Greene	
Montgomery	Marion	Independence	
Perry	Newton	Jackson	
Polk	Searcy	Lawrence	
Pope	Stone	Mississippi	
Scott	Washington	Poinsett	
Sebastian		Randolph	
Van Buren		Sharp	
Yell		White	
		Woodruff	

We used several different measures of programming activities for the analyses, depending on the nature of the program component. Some of the programming activity measures are dichotomous – either a county has a given activity or it does not. In such cases, we separately

estimated the baseline trend and the change in the trend for counties with the activity and counties without the activity.

In other analyses, the program measures took on many values – counties varied incrementally in the programming expenditures per capita or in the number of Tobacco Control Board inspections per capita. In such cases, we used regression modeling to estimate the effects of various factors on the outcome of interest (e.g., percentage who smoke). We estimated trends in the outcome measure, as influenced by the amount of program activity in each county and the start of the Tobacco Settlement program, after controlling for population demographics.[19] This model allowed us to detect, for example, whether moderate amounts of programming led to moderate decreases in smoking and large amounts of programming led to large decreases in smoking.

It would be good to have additional measures of programming, such as the quality of local programming and the unique challenges faced at the county and regional level. Likewise, it would be useful to have measures of other outcomes such as attitudes toward smoking. Unfortunately, such data are not available at this time. Although these additional data would provide more detailed information on the mechanisms through which the programming produces reductions in smoking, the analysis we present is adequate to determine whether there is a relationship between resources and the ultimate outcome of smoking. These results should be interpreted in the context of the process evaluation information about the program activities presented in Chapter 3, to better understand the underlying mechanisms.

The relationships derived in each of our models estimated a separate outcome trend for each county based on the level of programming. Since displaying the results of all 75 Arkansas counties would be unwieldy, we predicted outcome trends for representative counties at two different levels of program activity, such as counties with high spending or low spending on tobacco prevention and cessation interventions. The following text discusses all of the analyses we performed, but only provides graphical results for statistically significant relationships.

Community Grants, School Grants and Sponsorship Funding

Figure 10.11 presents the regional distribution of ADH per capita spending in its community, school and sponsorship programs from January 2001 through June 2004.[20] Spending varies considerably across the regions. Per capita expenditures in the Fort Smith regions are over twice as high as in the Delta or Pulaski regions. This variation exists in each of the components – community, school and sponsorships – as well as in the total of these three categories. Analysis at the county level demonstrates even larger variation in spending across counties. Combined spending in the three categories ranged from 16 cents per capita in the county with the lowest allocation to $9.56 in the county with the highest allocation. Such large variation in spending suggests that the impact on smoking rates might be higher in the areas where spending is highest.

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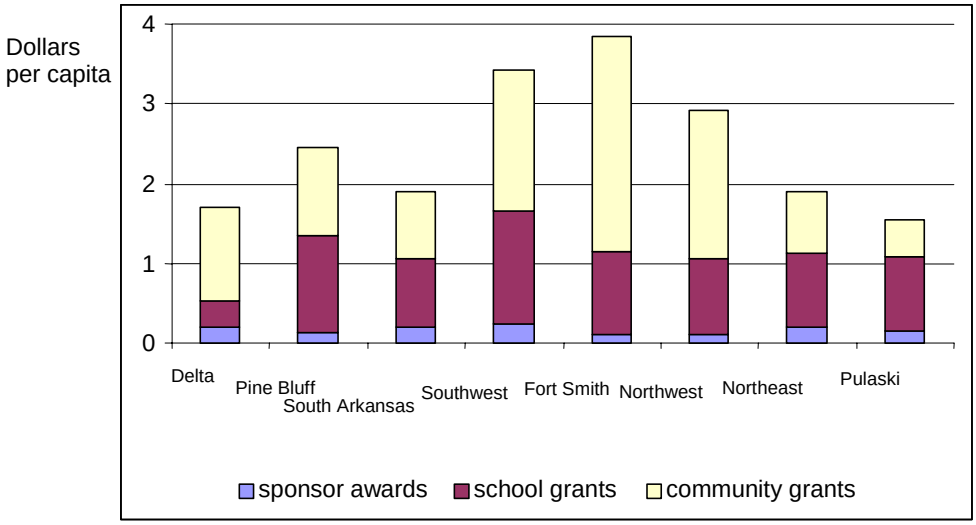
[19] The analysis assumed there is a linear dose-response relationship between the program activity and trends in outcome measures.

[20] These spending data are for the entire period from January 2001 through June 2004.



Source: RAND analysis of data provided by Arkansas Department of Health and the Census Bureau

Figure 10.11 Spending per capita for the ADH Tobacco Prevention and Education Program Community Grants, School Grants, and Sponsorship Awards, January 2001 – June 2004

The BRFSS and birth certificate data for the years 2001, 2002 and 2003 were used to measure smoking rates. Our analysis assumed that any effect of the program spending occurs gradually and can be detected as a change in the trend of prevalence of smokers between the baseline period and the 2001-2003 period of program operation.

Smoking by general population. Using the BRFSS data on the percentage of smokers in the general adult population, we found no evidence of any geographic relationship between the amount of ADH spending and a change in the trend of smoking prevalence. This finding holds whether we measure spending at the region or at the county level. A similar analysis was performed on each of the community, school and sponsorship components of ADH spending. This analysis also showed no relationships between program component spending levels and changes in smoking behavior.

Relationships between program spending and smoking trends were analyzed in a similar way for the youngest adults in the BRFSS, those between age 18 and 25. We showed earlier (Figure 10.8) that there was evidence that smoking rates for this age group were declining compared to the baseline trend, which was increasing. The geographic-specific analysis, however, did not find any relationship at either the county or regional level between smoking trends for this group and program spending. In other words, the statewide decline in smoking by young adults appears to be occurring in a way that is unrelated to local ADH spending on tobacco prevention and cessation activities.

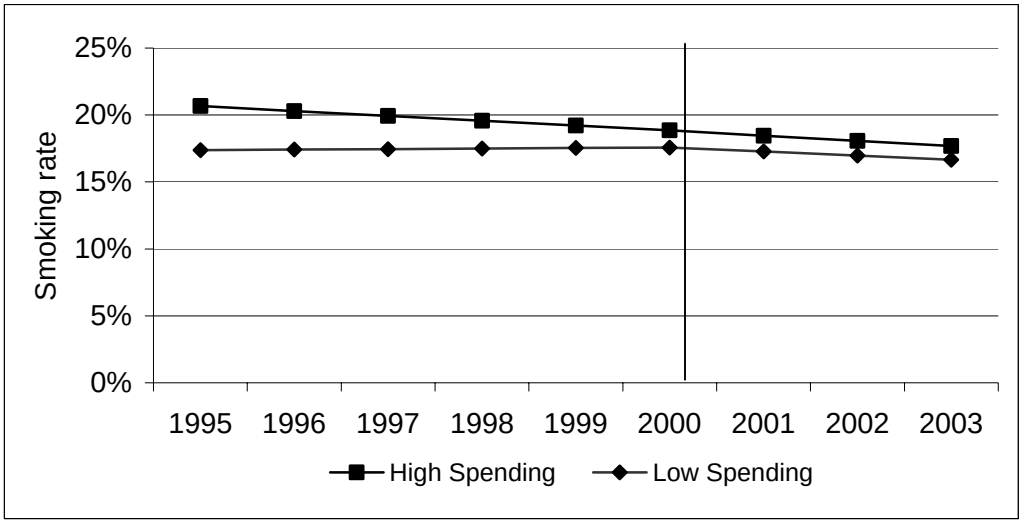
Smoking by pregnant women. We used the birth certificate data to perform this same analysis on the smoking rates of pregnant women. Although the programs were not specifically targeted on pregnant women, and some of the components were targeted on school children and other groups that have little overlap with pregnant women, we expect that the programs will influence community norms regarding smoking and have an indirect impact on smoking by

pregnant women. Furthermore, the larger number of respondents in this data set makes it possible to estimate changes in trends for this subpopulation more precisely than for the general adult population.

This analysis shows that the ADH spent more on programming in counties and regions where the baseline percentages of pregnant women who smoke were higher and were declining faster. This relationship between baseline county smoking rates and funding levels is statistically significant at the 0.01 level for both county spending and regional spending.

The baseline trends and the new trend following the beginning of Tobacco Settlement funding in 2001 are graphed in Figure 10.12 for two representative counties at the 10^{th} percentile (low spending) and 90^{th} percentile (high spending). These trends imply that the smoking rates were converging for counties with low and high funding levels before the start of Tobacco Settlement funding. Both smoking trends become significantly more negative following 2001, but we did not find a significant relationship between ADH spending and declines in smoking prevalence rates. In fact, the counties with low spending had a steeper decline than those with high spending, which is the opposite of the trend that would be expected for ADH program effects.

An analysis of the program components and their relationship to the smoking behavior of pregnant women provides little systematic evidence of effects of specific components. The regional analysis suggests that larger school grants are associated with declining smoking rates, but this finding is not confirmed by the county level analysis. Furthermore, the opposite effect is found for community grants (i.e. higher regional spending is associated with *increases* in smoking rates), a counterintuitive result that suggests that apparent effects for spending on individual components should be interpreted with skepticism. In fact, from a program design perspective, one would expect that all of the program components recommended by the CDC would need to be in place in a given location to achieve smoking reductions.



Source: RAND analysis of ADH per capita spending (2001-2004) and birth certificate data (1995-2003)

Note: *High spending county*: spending for the (population weighted) 90th percentile, which equals $4.82 per person between January 2001 and June 2004. *Low spending county*: Spending for the (population weighted) 10th percentile, which equals $1.08 per person between January 2001 and June 2004.

Figure 10.12 Smoking Trends among Pregnant Women by Tobacco Prevention and Cessation County Funding Levels

Tobacco Control Board Inspections

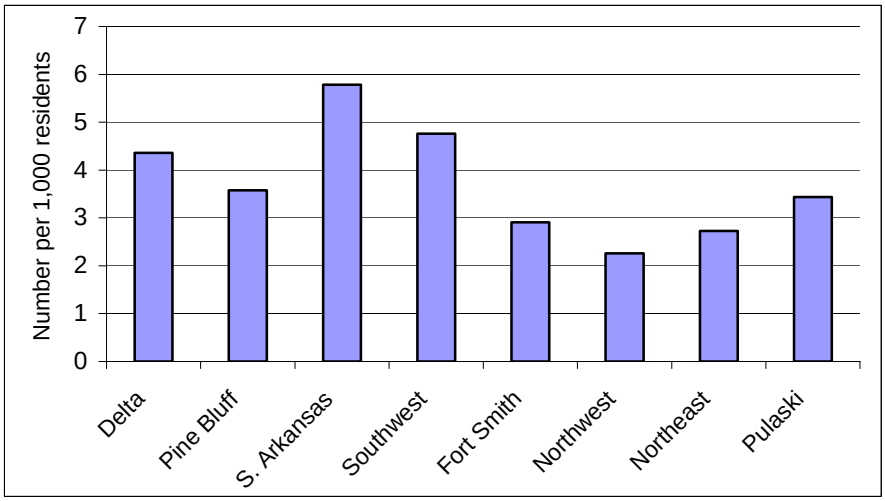
Another ADH programming activity is the inspection of merchants for compliance with laws prohibiting sales of cigarettes to minors. Unlike the Synar inspections that are randomly targeted in an attempt to evaluate compliance, the Tobacco Control Board inspections are targeted to areas with suspected low compliance or to merchants who have had a complaint filed against them. One goal of these inspections is to reduce the violation rate and thereby reduce the smoking rate among minors in the targeted areas.

Figure 10.13 shows the number of Tobacco Control Board inspections per thousand residents by region during the period April, 2002 through March, 2004. Some of these inspections happened after the time that outcome data were collected. Our analysis assumes that the inspection rate in each area reflects the ongoing effort throughout the period.

The regional distribution indicates that there was considerable variation in inspection rates among the regions. The South Arkansas region has the highest inspection rate, which is almost three times that of the inspection rate of the Northwest region, which has the lowest rate. The county level inspection rates show even more variation, ranging from 0.45 inspections per thousand residents in the lowest county to 9.44 inspections per thousand residents in the highest.

Although no information on youth smoking rates is systematically collected by region or county, we do have geographic-specific smoking rates for pregnant teenagers from the birth certificate data. We analyzed whether Tobacco Control Board activity was related to changes in smoking rates among pregnant teenagers below the age of 18. Our analysis indicates that there is no significant relationship between regional or county inspection rates and changes in smoking

among pregnant teenagers following the start of Tobacco Settlement programming (data not shown). We did find, however, that inspections happen less frequently in counties with high baseline smoking rates among pregnant teenagers, which is the reverse of what would be expected if the Control Board was targeting areas with compliance problems. A one percent higher pregnant teenager smoking rate is associated with ten percent fewer inspections.



Source: RAND analysis of data provided by the Arkansas Department of Health and Census Bureau

Figure 10.13 Tobacco Control Board Inspections per 1,000 residents by AHEC Region, April, 2002 through March, 2004

Arkansas Foundation for Medical Care (AFMC) Clinics

Fifteen counties in the state have AFMC cessation programs. We examined the BRFSS and birth certificate data to determine whether there were decreases in the percentage of smokers among residents of these counties following the initiation of the Tobacco Settlement programs. We excluded Pulaski County because the AFMC programs are all located outside of this densely populated county. The BRFSS data showed no significant relationship between smoking trends on the initiation of AFMC clinics. However, we found that among pregnant women, the trend in prevalence of smokers for residents of AFMC counties decreased in the years following the start of the AFMC programs relative to counties without AFMC programs. As shown in Figure 10.14, the magnitude of this effect was small, but it was statistically significant. Given the relatively small enrollment of these clinics and the fact that they did not explicitly target pregnant women, it is possible that this finding is spurious, but as it is statistically significant and in the expected direction, we report it and interpret it with caution.

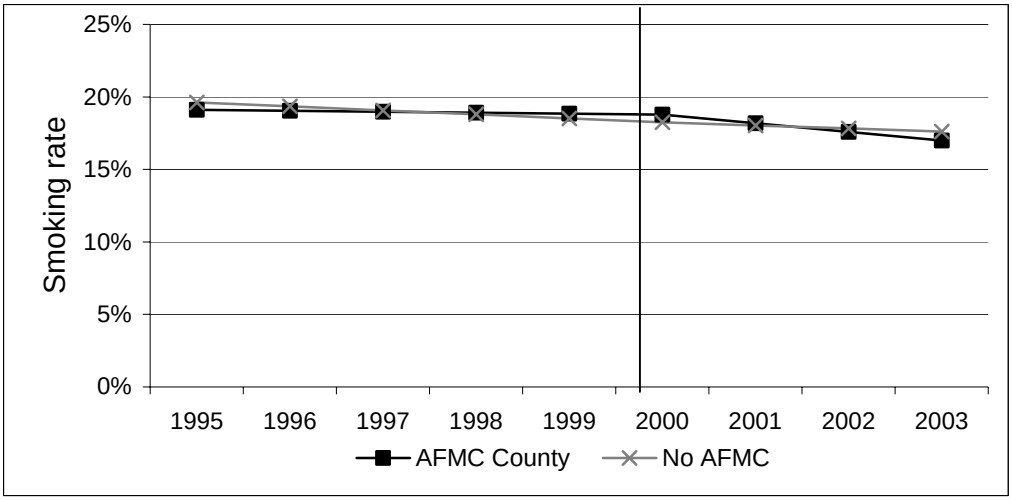


Figure 10.14 Trends in the Percentage of Pregnant Women who Smoke, AFMC Counties and Non-AFMC Counties

ANALYSIS OF OUTCOMES IN THE DELTA REGION

Key Finding: Smoking rates in the Delta region had been increasing during the baseline period before the Tobacco Settlement programs began, but have decreased following program initiation. We do not have evidence that allows us to attribute this success to any particular program, so we tentatively conclude that it is due to the combined efforts of several programs with tobacco prevention and cessation activities in that region, which include the Delta AHEC, the Minority Health Initiative, the ADH, and a new Center on Aging.

This outcomes analysis examines trends in smoking behavior and health outcomes for the Delta region. Our goal is to determine whether observed trends provide evidence that the programs supported by Tobacco Settlement funds are affecting smoking outcomes. The Delta AHEC is the key funded program serving this area, and as detailed in Chapter 5, the AHEC provides numerous health education and outreach programs including smoking programs. Several other Tobacco Settlement programs also serve the Delta region, including the Minority Health Initiative, the ADH Tobacco Prevention and Cessation program, and the Aging Initiative. Therefore, the results of some of our analyses reflect the combined effect of multiple program interventions in this region. We interpret each set of results carefully to ensure that any effects observed are attributed correctly to the program or programs with the most relevant programming.

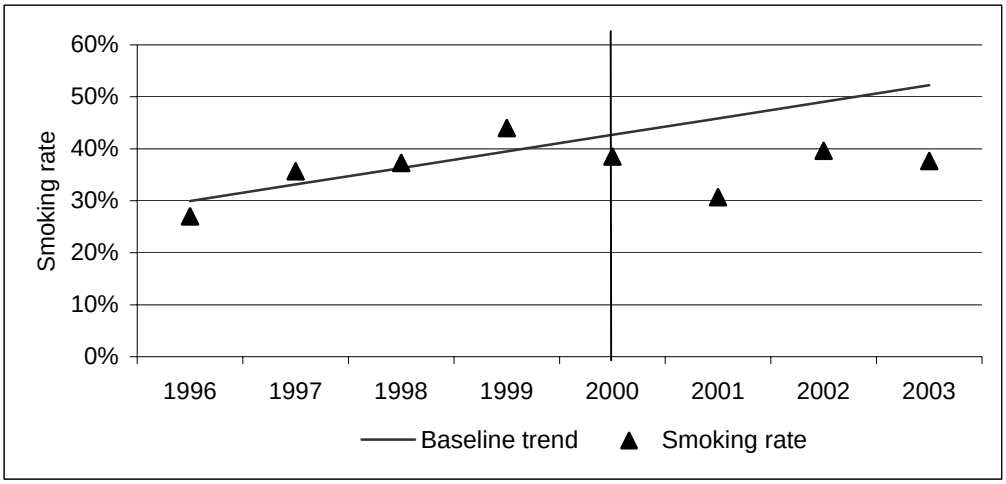
We test for deviations from baseline trends in smoking rates, using the BRFSS data for the general adult population, and we examine the patterns for the entire population and separately for the youngest adult cohort (age 18 to 25 years). Smoking rates in the Delta region might be affected by programming by the Delta AHEC, ADH, Minority Health Initiative, and Aging Initiative, all of which are providing some smoking education or treatment services in the region.

We performed analyses at both the region and the county level. Because much of the Delta AHEC programming occurs in its centers in Helena, West Memphis and Lake Village, we also

examined whether the three counties in which these centers are located have changes in their trends that differ from the rest of the region. We did not detect any systematic differences among the counties within the Delta. Therefore, the results we present below focus on the comparison of changes in the Delta region as a whole to changes elsewhere in the state.

Analysis of the trends in adult smoking rates using the BRFSS data indicates that trends in smoking rates in the Delta region are very different from the state-level trends presented above. As shown above in Figure 10.3, there was no discernable trend in smoking for the state as a whole before the Tobacco Settlement programming began, and smoking remained constant during the years of program operation. For the Delta, however, there is evidence that baseline smoking rates were increasing and that smoking rates then dropped below this trend in two of the three years of program operation.

Figure 10.15 presents this finding for the Delta region. The trend line is estimated from the baseline period and extrapolated into the programming period. The data points on the graph are the estimated smoking rates for each year, adjusted for demographic factors. The vertical line separates the baseline period from the subsequent programming period. Deviations from projected trend in 2001 and 2003 are significant at the 0.01 and 0.05 level, respectively.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

Figure 10.15 Percentage of Adults who Smoke, Arkansas Delta Region, Adjusted for Demographic Changes, 1996 through 2003

A more detailed geographic analysis of smoking rates in the Delta did not find any relationship between the county-level declines in smoking and the location of the Delta AHEC centers. Similarly, effects on smoking were not found for any other specific program. As discussed above, we found no evidence of a relationship between county-level programming intensity for the ADH programs and smoking reduction. As found in our process evaluation, neither the Minority Health Initiative nor the Delta Center on Aging had sufficient smoking-related activity in the Delta region to have an effect on smoking. Therefore, our tentative conclusion is that the decline in smoking in the Delta is due to the cumulative impact of all relevant programming rather than the effect of any single program.

In our analysis of the smoking rates for pregnant women in the Delta, we found no evidence of recent reductions in smoking relative to the baseline trend. Smoking rates for this subpopulation were steady during the baseline period and have not deviated significantly from those rates in recent years since the Tobacco Settlement program startup.

SHORT-TERM HEALTH OUTCOMES

Key Finding: We present baseline trends for several health conditions that are related to smoking. After appropriately controlling for other factors that affect these health conditions, future analysis of deviations from these trends will provide important evidence regarding the effects of Tobacco Settlement programming on health outcomes.

The above analysis indicates that the Tobacco Settlement programs have not had sufficient time to have a significant impact on adult smoking, as measured by the BRFSS survey. We expect that continued programming efforts will lead to reduced smoking in the near future. The medical literature provides much evidence that reduction in smoking will improve the health status of Arkansans. Some measures of health will respond to decreases in smoking only after a long time. For example, high rates of cancer and emphysema are the result of many years of high smoking rates and will only show substantial decreases after smoking rates have been reduced for many years. Other conditions, however, respond more quickly to changes in smoking behavior.

In consultation with health researchers and in our review of the literature, we identified five health measures that we expect to respond very quickly to reductions in smoking. We provide baseline trends for these measures. We recommend that these indicators be followed for at least the next ten years. They can be used to confirm imprecise survey-based estimates of smoking reduction and to document the positive benefits from tobacco prevention and cessation programming.

The first of the five measures is the rate of low-birthweight births—the number of births weighing less than 2,500 grams per 100 total births. As reported in a study by Lightwood, Phibbs and Glantz, maternal smoking contributes to approximately one quarter of all low weight births.[21] Reductions in maternal smoking can have an immediate impact on the number of low-weight births. The remaining four of the five measures are based on hospital discharge records. In another article by Lightwood and Glantz, they document the dramatic drop in the relative risk for strokes and acute myocardial infarctions (AMI) during the first four years following smoking cessation.[22] The two remaining measures are for pulmonary conditions. Nuorti, et al., find that smoking is the strongest independent risk factor for pneumonia.[23] Asthma has been shown to be

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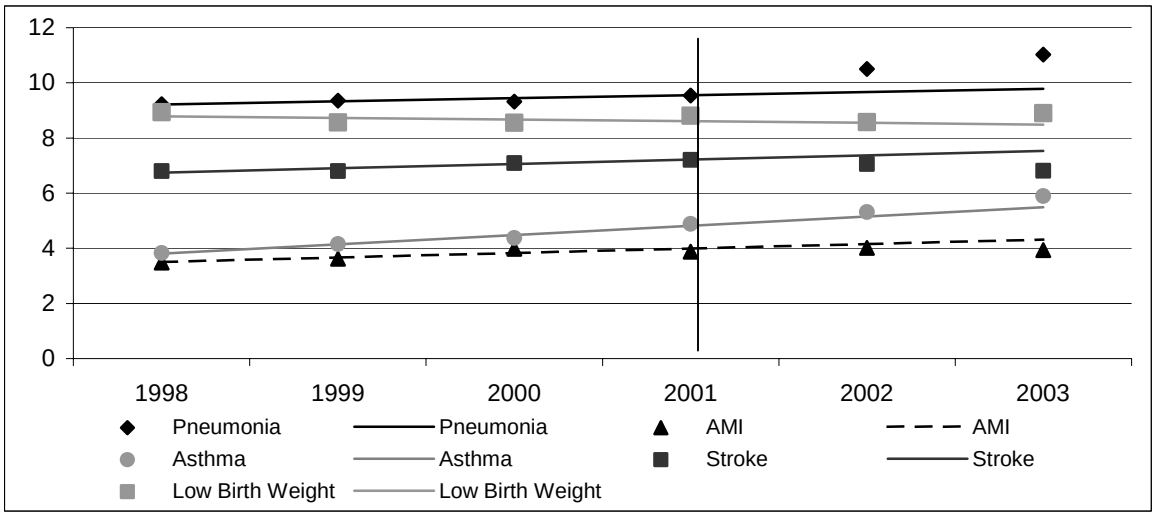
[21] Lightwood, JM, CS Phibbs and SA Glantz. Short-term Health and Economic Benefits of Smoking Cessation: Low Birth Weight. *Pediatrics*. 1999;104:1312-1320.

[22] Lightwood, JM and SA Glantz. Short-Term Economic and Health Benefits of Smoking Cessation: Myocardial Infarction and Stroke. *Circulation.* 1997; 96:1089-1096.

[23] Nuorti, JP, JC Butler, MM Farley, LH Harrison, A McGeer, MS Kolczak, RF Breiman and the Active Bacterial Surveillance Team. Cigarette Smoking and Invasive Pneumococcal Disease. *New England Journal of Medicine*. 2000; 342:681-689.

aggravated in smokers and by second-hand smoke in non-smokers.[24] In each of these cases, the literature demonstrates that reducing the prevalence of smoking will lead to rapid decreases in the negative health condition.

Figure 10.16 presents the annual values for each of these measures as well as baseline trends estimated from years 1998 through 2001. The stroke rate shows a significant downward deviation from the baseline trend, but pneumonia and asthma rates show significant upward deviations from their trends. The rates for AMI and low birth weight do not deviate significantly from their baseline trends.



Source: RAND analysis of hospital discharge data, birth certificate data and Census data.

Note: The marks for stroke, AMI, asthma and pneumonia show the number of hospital discharges in each year per 1000 people in Arkansas for the diagnosis. The marks for low birth weight show the number of low-birth-weight births in each year per 100 total births in Arkansas. The trend lines for each condition are estimated from the first four years of data (1998-2001). The trend lines are extended into 2002 and 2003 to show the deviation of the actual rates from the rates predicted by the baseline trends.

Figure 10.16 Short-Term Health Indicators, Baseline Trends and Early Deviations

Of course all these conditions are influenced by other factors as well. Presumably the increases in hospital discharges that we found for pneumonia and asthma do not reflect effects of smoking prevention and cessation activity, but rather reflect other unmeasured forces changing these rates. Therefore, in future work we will explicitly control for these other factors such as changes in demographic composition in a multivariate analysis, and we will use comparisons to other areas where unmeasured factors are likely to be exerting similar influences.

DISCUSSION

The outcome analysis results that we present in this Chapter provide useful information on baseline trends for smoking behavior, and they provide insights into possible early effects of

[24] Floreani AA and SI Rennard. The Role of Cigarette Smoke in the Pathogenesis of Asthma and as a Trigger for Acute Symptoms. *Current Opinions in Pulmonary Medicine.* 1999; 5:38-46.

the programs supported by the Tobacco Settlement funds. Given the early nature of these results, as well as the cost involved in obtaining and working with data for national or regional comparisons, at this time we only present the Arkansas trends. However, future analysis should be done to compare these trends to regional and national trends, to determine how well Arkansas is progressing relative to other areas in reducing smoking rates and improving health status for smoking-related health conditions.

In this initial outcome analyses, we have attempted to discover a dose-response relationship between program efforts directed toward particular parts of the state or subpopulation and subsequent smoking prevalence for those targeted populations. In the future, we can extend this analysis by disaggregating the health outcome rates by demographic group or counties. Although it is premature to do so at this time, such detailed analysis can add to our ability to confirm survey-based measures of smoking behavior and provide additional evidence of the impact of the individual Tobacco Settlement programs.

Chapter 11.
Evaluation of Non-Smoking Outcomes

As discussed in the previous chapter, the seven programs being supported by the Tobacco Settlement funds are extremely diverse, and therefore, the outcomes of interest for these programs also vary widely. Indeed, many of the programs are targeted to affect a number of health-related outcomes other than smoking. It is these outcome measures that we examine in this Chapter. Similar to our approach for smoking behavior outcomes, we were guided by the long-term goals for the relevant programs for identification of measurable outcomes for the programs, and we developed the measures in consultation with the programs' staff and the Tobacco Settlement Commission.

We examine effects on outcomes for three programs: the Delta AHEC, the Medicaid expansion and the Aging Initiative. Our outcome measures for Medicaid and the Aging Initiative represent a large portion of their efforts. For the Delta AHEC, however, we are limited by available data to an analysis of teen pregnancy rates, which reflects only a small portion of their efforts.

We have focused on outcomes that can be measured at the population level. As explained in the previous chapter, simply measuring health outcomes for program participants does not provide a good indication of whether the program had an impact on the health of the participants or merely did a good job at enrolling people who were determined to improve their health with or without program assistance. Therefore, for many program efforts we must rely on the process evaluation to provide our only insights into program success. However, for some program components we are able to construct population measures that will reflect the impact of successful program efforts.

A fourth program, the Minority Health Initiative, is targeting its programming efforts on reducing hypertension and obesity. Although these programs should have a measurable impact in the short to medium term, there are no good sources of population outcomes data. To detect an impact of these programs would require an expensive data collection effort to capture measures such as blood pressure and body mass index for the targeted populations. However, in the long term, success should be evident from reductions in hospitalizations and death from these causes.

Assessment of program impacts requires the ability to connect the effort undertaken by a program to the expected outcome in a way that takes into account other factors that influence the outcome. It also requires that findings be presented with an indication of how precise the findings are, which can be reported as a margin of error (+/- so many percent), as a confidence interval (the narrower the interval, the more precise the estimate), or as a significance level on a hypothesis test (whether or not the finding is reliable or could be expected by chance). Refer to Chapter 10 for more details on our methodological approach.

The remaining two programs—the College of Public Health and the Arkansas Biosciences Institute—are long-term investments in future improvements for the health system in Arkansas. Because these programs are not expected to have early effects on outcomes for the health system or the health status of Arkansans, we did not develop outcome measures for them. At this time, the most pertinent measures of their progress in relation to the goals of the Initiated Act are the process indicators on which the programs are measured in previous chapters. As these two

programs begin to yield measurable impacts on the Arkansas health system, however, it will be important to address their outcomes in the future and we plan to do so.

HIGHLIGHTS OF FINDINGS ON PROGRAM OUTCOMES

We highlight here some of the findings from our analysis of program effects on outcome measures. Many of the results of this first outcome analysis are inconclusive, for several reasons that are described at the beginning of Chapter 10. Perhaps the most important of these reasons is the relative newness of the funded programs, which have been in full operation for only a short time. Therefore, we have very limited data on outcomes and the passage of time is required before effects of many of the program efforts can be realized.

Highlights of our findings regarding effects of the Tobacco Settlement programs that have a direct impact on health outcomes other than smoking are as follows:

- *Delta AHEC Teen Pregnancy Programming.* The downward trend in teen pregnancy has accelerated in the Delta since Tobacco Settlement funding began. However, the trend also has accelerated elsewhere in the state, suggesting that the cause may be due to factors other than Delta AHEC programming.
- *Medicaid Benefits for Pregnant Women.* We find strong evidence that the percentage of women who received prenatal care has increased with the expansion of Medicaid benefits for pregnant women. We could find no evidence, however, that this increase of prenatal care translated into reductions of low weight births.
- *Other Medicaid Expanded Benefits.* No clear effects were found for the expansion of Medicaid hospital payments or the ARSeniors program. The former increased payments to hospitals for each Medicaid inpatient stay, but it has not affected the amount of inpatient care used by Medicaid recipients. It is too early to detect effects of ARSeniors on health status of seniors, as measured by avoidable hospitalizations; this analysis will be continued as more data are collected.
- *Arkansas Aging Initiative.* The seven new Centers on Aging (COA) went into operation at differing times between 2001 and 2003, and only four COAs were active in 2002 or earlier. The avoidable hospitalization analysis we performed provides baseline information on rates of these events in the areas served by the COAs, but it is premature to find any effects of their services on reduction in avoidable hospitalizations.

We repeat here our statement from the previous chapter that our findings are tentative at this point due to the early stage of programming:

> Throughout this chapter, the phrase "too early to tell" is a repeated refrain. Our approach to this outcome evaluation has been to design methods that can reliably detect an impact on smoking behaviors and health outcomes over time. In most cases, the programs are still too new and the survey statistics and other measures are too imprecise to detect an effect this soon after the programs started. When we report there is no evidence of a program effect, that does not mean there are no effects; it just means that it's too early to tell. As additional data become available for future years, the analysis will be better able to make finer distinctions between positive effects and no effects.

We first present results of our analyses of trends in teen pregnancy outcomes in the Delta region. We then examine outcomes for each of the operating components of the Medicaid expansion, and we conclude with an analysis of outcomes for the Aging Initiative.

ANALYSIS OF OUTCOMES FOR THE DELTA AHEC

Key Finding: The downward trend in teen pregnancy has accelerated in the Delta since Tobacco Settlement funding began. However, the trend also has accelerated elsewhere in the state, suggesting that the cause may be due to factors other than Delta AHEC programming.

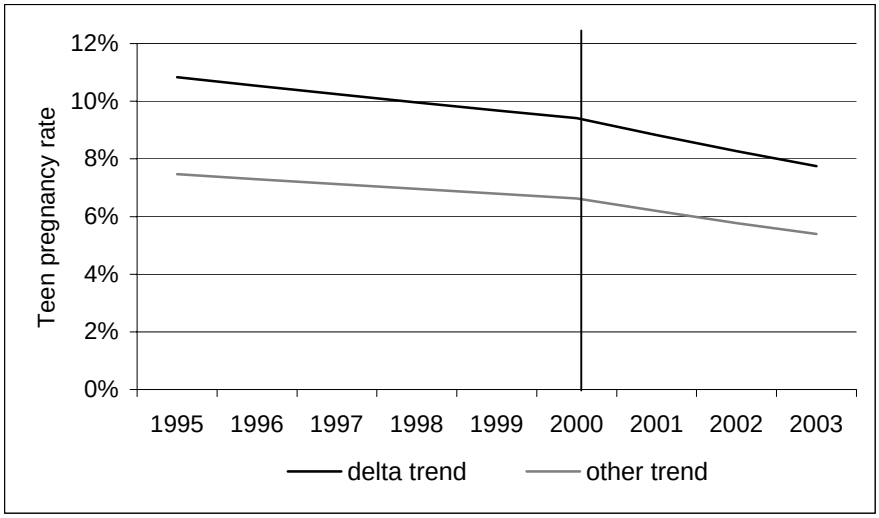
In this analysis, we examine trends in teen pregnancy rates for the Delta region, with comparisons to the rates for the state. One of the numerous health education and outreach programs provided by the Delta AHEC is a program to reduce teen pregnancies. Although several other Tobacco Settlement programs also serve the Delta region, none of them addresses teen pregnancy directly. Therefore, any change in teen pregnancy rates can be interpreted with some confidence as being an effect of the Delta AHEC program. As stated above, lack of population outcomes data prevents us at this time from evaluating the effects of the many other Delta AHEC programs on relevant outcomes. We will continue to seek ways to expand the scope of analysis in the future.

To calculate teen pregnancy rates, we use counts of pregnancies by county from the birth certificate data in conjunction with Census Bureau annual estimates of the number of female teenagers by county. We test for deviations from baseline trends in this measure. We performed analyses at both the region and the county level. We tested for systematic differences among the counties within the Delta that might be the result of clustering of services around the AHEC's three office locations, but we did not find any differences related to office location. Therefore, the results we present compare changes in rates in the Delta as a whole to changes elsewhere in the state.

We analyze the impact of the Delta AHEC's programming on teen pregnancy by calculating annual teen pregnancy rates for each county in the region from 1995 to 2003. These rates are calculated as the ratio of number of mothers in the birth certificate data, age 15 to 19, to the number of females in the same age range. The age range was restricted (omitting younger mothers) because the Census Bureau only publishes annual county population estimates for five year age ranges. Almost 98 percent of teen births are to mothers age 15 or older, so this restriction should not impair the analysis.

Using these county teen pregnancy rates, we estimate the baseline trend and the change in the trend when Tobacco Settlement programs began operation. Trends are estimated separately for the Delta region and for the rest of the state, with the results presented in Figure 11.1.

Both the Delta region and the rest of the state had downward trends in teen pregnancy rates during the baseline period, although the rate for the Delta region was higher. The trend declined more in both the Delta and the rest of the state following the start of the Tobacco Settlement programs, and this change in trend is statistically significant at the 0.01 level. However, the slope of the new trend for the Delta region is not significantly different from the slope of the trend for the rest of the state. This finding of similarity between the trends in the Delta region and remainder of the state suggests that the drop in teen pregnancy in the Delta region was due to factors that existed throughout the state, rather than being a result of specific programming activities by the Delta AHEC.



Source: RAND analysis of Birth Certificate and Census Bureau data

Figure 11.1 Teen Pregnancy Trends for the Delta Region and the Rest of the State, Ages 15-19, 1995 through 2003

MEDICAID OUTCOMES ANALYSIS

Key Findings: The expansion of benefits for pregnant women has led to increased prenatal care. The expansion of hospital benefits has not changed hospital utilization. It is too early to tell whether the expansion of benefits for impoverished elderly has improved health outcomes.

Expansion of Benefits for Pregnant Women

One component of the Medicaid expansion provides benefits to pregnant women whose income is between 133 percent and 200 percent of the federal poverty limit. We examine the extent to which this benefit led to better prenatal care for pregnant women in Arkansas. This supplements the spending analysis for the Medicaid expansion presented in Chapter 9. The spending analysis demonstrates the extent to which the new benefit was used by pregnant women. The analysis presented here examines whether the benefit led to additional care rather than to a shift to Medicaid from other payment sources.

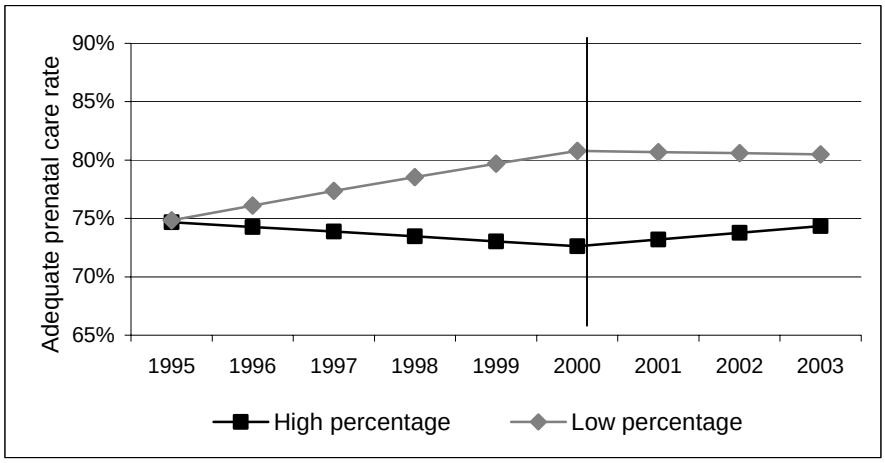
For information on prenatal visit utilization, we use the number of prenatal visits reported on birth certificates. Adequate prenatal care was defined as having at least 10 prenatal care visits during the pregnancy.

The birth certificate data do not contain information on Medicaid status, so we used county-level data on poverty status as a proxy for concentrations of Medicaid recipients. (There also was not county-level data on the percentage of the population receiving the expanded Medicaid for pregnant women.) The Census Bureau provides estimates of the percentage of each county's population that is in each of several categories defined by the ratio of income to the poverty level. Using the categories that are most closely aligned with the benefit change, we calculated the percentage of the population in each county with income between 125 percent and 200 percent of the federal poverty limit. We then examined whether there were increases in the

percentage of women who had adequate prenatal care, and whether any increases were positively related to the percentage of the county population in this poverty category.

The analysis used data for all pregnant women in all counties in the state, and trends for the baseline and program periods were estimated. Then trends were projected for representative counties at the 10th and 90th percentiles of poverty levels for the county distribution, which are shown in Figure 11.2. The 10th percentile represents a county with 13.9 percent of people in the poverty range targeted by the Medicaid expansion, and the 90th percentile represents a county with 20.7 percent of people in that range.

We found that after the Medicaid expansion was introduced, rates of women receiving adequate prenatal care increased in counties with higher percentages of people in the defined poverty category, after adjusting for demographic differences. During the baseline period (prior to 2001, represented by the vertical line in the figure), the percentages of pregnant women receiving adequate prenatal care decreased over time in counties with higher percentages of people in the defined poverty range. At the same time, the percentages receiving adequate prenatal care increased over time in counties with lower percentages of people in the poverty range. When the Tobacco Settlement programs started, the trends reversed, and since 2001, prenatal care has increased in counties with more women in the targeted poverty range. This finding is statistically significant.



Source: RAND analysis of Birth Certificate data and Census Bureau data

Figure 11.2 Use of Adequate Prenatal Care Visits, for Counties with High and Low Percentages of People Eligible for Expanded Medicaid Benefits, Age, Sex and Race Adjusted, 1995 through 2003.

To check the robustness of our methodology, we also examined the trends based on the proportion of county residents below 125 percent of the poverty limit. Pregnant women in this poverty range have been covered by Medicaid throughout the analysis period and therefore were not directly affected by ATS programming. Our analysis indicated that prenatal care patterns (both level and trend) for this poorest category were similar to those for women above 200 percent of poverty who were never eligible for Medicaid benefits. This provided further

evidence that pregnant women in the middle poverty category were receiving the least prenatal care and that the extension of Medicaid benefits to this group is having a positive impact.

We also examined whether the expansion of the Medicaid benefit to pregnant women led to a reduction in the low birth weight rate using the same technique of relating changes in trends to the proportion of people in the county who fall into the target poverty range. We found no evidence that the Medicaid expansion has reduced the low birth weight rate thus far.

Medicaid Hospital Benefit

The expansion of the hospital benefit in November 2001 increased the amount that Medicaid could compensate hospitals by reducing the co-payment for the first hospital day of the benefit year from 22 percent to 10 percent and by extending the maximum number of reimbursable inpatient days per year from 20 to 24 days. The impact on health outcomes for Arkansans from this benefit is difficult to predict and difficult to measure. Charges that are not reimbursed by Medicaid are the responsibility of the patient, but in practice, hospitals collect a very small fraction of these unreimbursed charges from the patients.

If hospitals, doctors and patients took the amount of Medicaid coverage into account when deciding among health care options, it is possible that the expanded payment could lead to more days of hospital care. Alternatively, the benefit expansion could lead to a decrease in out-of-pocket payments by Medicaid recipients or a decrease in the amount of unreimbursed care provided by hospitals, without having any significant impact on days of hospitalization. In this analysis, we work with state hospital discharge data to examine whether the benefit expansion had a direct impact on number of days of hospitalization for Medicaid recipients,.

Our hypothesis for this analysis is that if the reduction in the Medicaid co-payment is having an effect, it will occur primarily as an increase in the number of short hospital stays. If a condition is serious enough to merit a long hospital stay, it is unlikely to be influenced by a relatively small change in the cost of the first day of hospitalization. To test this hypothesis, we examined the distribution of cumulative hospital days for all patients for whom Medicaid is the primary payer for at least one hospital stay, to assess whether there has been an increase in the fraction of Medicaid hospital stays of very short duration. The Medicaid trends were compared to the trend for patients who have not received Medicaid.

Table 11.1 presents the fraction of patients with short hospital inpatient stays for each year. The top panel contains information for patients who received Medicaid, the bottom for those who did not. Although there are some differences between the two groups (e.g. Medicaid patients are more likely to have two total hospital days and non-Medicaid patients are more likely to have one, four or five total days), there are no changes for the Medicaid group following the expansion of the hospital benefit in 2001 that suggest an increased likelihood of entering the hospital due to the reduction in the copayment for the first inpatient day.

Table 11.1 Percentage of Medicaid and Non-Medicaid Patients with Few Hospital Days by Cumulative Days, 1998 through 2003

	Percentage of Patients by Cumulative Hospital Days					
year	1	2	3	4	5	6 or more
Medicaid						
1998	19.3	27.7	14.9	7.7	5.0	25.3
1999	18.5	27.7	15.7	8.3	4.7	25.0
2000	17.8	29.1	15.8	8.2	5.0	24.2
2001	17.0	29.3	15.7	8.0	4.8	25.2
2002	17.1	29.9	16.0	8.2	4.3	24.4
2003	17.2	31.0	16.4	7.5	4.5	23.4
Total	17.7	29.3	15.8	8.0	4.7	24.5
Non-Medicaid						
1998	19.2	24.5	16.1	9.3	6.1	24.8
1999	20.3	24.6	15.7	9.1	5.9	24.4
2000	20.8	24.4	15.8	9.1	5.7	24.2
2001	20.9	24.0	15.7	9.0	5.7	24.8
2002	20.9	24.1	15.5	9.0	5.9	24.7
2003	20.8	24.7	15.5	8.7	5.8	24.6
Total	20.5	24.4	15.7	9.0	5.8	24.6

In order to examine the effect of extending hospital benefits from 20 to 24 days per year, we looked at the number of inpatient days for people who had at least 19 days of hospitalization. We examined whether the increased benefit increased the proportion of these people who had between 21 and 24 days total hospitalization.

Table 11.2 presents this information separately for patients who did and did not have Medicaid as a primary payer for at least one hospital visit during the year. Similar to our analysis of patients with few hospital days, nothing in the table suggests that lengths of stay have changed due to changes in the number of hospital days covered by Medicaid in 2001.

These analyses lead us to conclude that the expansion of Medicaid hospital payments has offset some previously unreimbursed costs for hospitals, but that it has not had a direct effect on the amount of hospitalization used by Medicaid recipients.

Medicaid ARSeniors

In October, 2002, Medicaid benefits were extended to people age 65 years and older who had incomes below 75 percent of the federal poverty limit.[25] Increased access to quality medical care is expected to improve the health status of elderly Arkansans. Among the many consequences of poor access to primary care services is an increased likelihood of avoidable hospitalizations. In its seminal study on access to health care in America, the Institute of Medicine (1993) argued that timely and appropriate outpatient care would reduce the likelihood of hospitalizations for ambulatory care sensitive conditions.

[25] The income limit for the AR-Seniors program subsequently was increased to 80 percent of the Federal poverty limit, which went into effect on January 1, 2003.

Table 11.2 Cumulative Hospital Days for Patients with Many Days, All patients with 19 or more hospital days in the indicated year.

	Percentage of Patients by Cumulative Hospital Days							
Year	19	20	21	22	23	24	25	26 or more
Medicaid								
1998	6.7	6.8	6.8	5.5	5.9	4.7	3.6	60.2
1999	6.3	6.1	7.7	4.6	4.8	5.4	4.1	61.0
2000	6.3	6.5	5.6	5.3	5.2	3.9	4.6	62.6
2001	6.2	5.9	5.0	4.7	5.3	3.8	4.5	64.6
2002	6.9	7.2	6.8	5.3	4.2	4.4	4.6	60.7
2003	6.8	5.6	6.0	6.5	4.3	4.1	4.3	62.5
Total	6.5	6.3	6.3	5.4	4.9	4.3	4.3	62.0
Non-Medicaid								
1998	8.4	5.9	6.2	5.4	4.9	4.9	3.8	60.5
1999	7.5	6.7	5.1	5.9	5.5	4.8	4.3	60.1
2000	6.9	6.6	6.8	6.0	5.5	4.6	5.1	58.6
2001	7.6	6.9	6.1	5.4	5.1	4.4	4.3	60.3
2002	7.3	6.9	6.0	5.5	4.8	4.4	4.4	60.8
2003	7.3	6.4	6.0	5.6	5.2	4.5	3.8	61.3
Total	7.4	6.6	6.0	5.6	5.2	4.6	4.3	60.3

We examine here whether the number of avoidable hospitalizations is affected by the implementation of the ARSeniors benefit. A greater decline in avoidable hospitalizations in locations with more eligible seniors would be evidence that the benefit was contributing to improved health outcomes. We perform a county-level analysis that estimates the baseline trend in avoidable hospitalizations among the elderly and examines whether there is a deviation from the trend that is related to the percentage of county residents with income less than 75 percent of the poverty level.

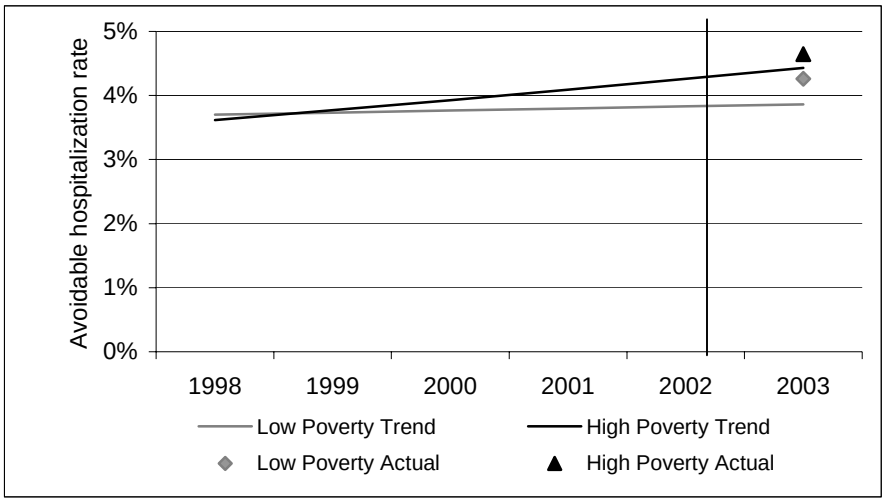
We employed the definition of avoidable hospitalizations developed by McCall et al. (2001) to study the incidence of avoidable hospitalizations in Medicare+Choice managed care plans. From a review of the literature, they identified fifteen ambulatory care sensitive conditions and performed a clinical review of those conditions to determine if they would apply to an elderly population. They developed three groups of avoidable hospitalizations from their work: chronic, acute, and preventive.

The conditions used to define avoidable hospitalizations are presented in Table 11.3. A hospital stay was deemed avoidable if a code for one of these diagnoses was listed on the discharge abstract as the primary diagnosis for that stay. For each beneficiary, the total number of avoidable hospitalizations for chronic, acute, and preventive conditions was obtained from the hospital discharge file. We identified the population age 65 and older that had one or more avoidable hospitalizations in each year from 1998 through 2003.

Table 11.3 Avoidable Hospitalization Conditions

Total Chronic Conditions	Total Acute Conditions
Asthma/COPD	Cellulitis
Seizure Disorder	Dehydration
CHF	Gastric or Duodenal Ulcer
Diabetes	Urinary Tract Infection
Hypertension	Bacterial Pneumonia
	Severe ENT Infection
Total Preventive Conditions	Hypoglycemia
Malnutrition	Hypokalemia
Influenza	

Figure 11.3 graphs the estimated baseline trends in avoidable hospitalizations for the older population in representative counties with high and low rates of poverty, where a high poverty county has 14.8 percent of the population with income below 75 percent of the federal poverty limit (90th percentile) and a low poverty county has 6.5 percent of the population with income below 75 percent of the federal poverty limit (10th percentile). In addition, our estimates of avoidable hospitalization rates in 2003 for those representative counties are shown on the graph, for comparison with the baseline trends. These results are for avoidable hospitalizations due to preventable or acute conditions.



Note: *High poverty county*: 14.8 percent of the population has income below 75 percent of the federal poverty limit (90th percentile, population weighted). *Low poverty county*: 6.5 percent of the population has income below 75 percent of the federal poverty limit (10th percentile, population weighted).

Figure 11.3 Percentage of Elderly With At Least One Avoidable Hospitalization for Preventable and Acute conditions, by Counties with High and Low Poverty Rates

Before the ARSeniors benefit started at the end of 2002 (noted by the vertical line in figure 11.3), avoidable hospitalizations were increasing in high-poverty counties and were relatively constant in low-poverty counties. In 2003, the avoidable hospitalization rate for preventable or acute conditions was not significantly different from the baseline trend for either the low or high-

poverty counties. We obtained similar results for avoidable hospitalizations from chronic conditions. With only one year of data following implementation of the ARSeniors benefit, it is not surprising that an effect was not detected. This analysis will be continued as more years of data are collected.

ARKANSAS AGING INITIATIVE

Key Finding: The new Centers on Aging are located in counties in which the elderly already had better health status than those in other counties, suggesting the need for service outreach by the COAs to the other counties they serve. It is too early to determine whether the new Centers have improved the health status of the elderly.

The Tobacco Settlement funding has been used to establish regional Centers on Aging, which are working with their partners to improve health care for elders. We again use avoidable hospitalizations as an outcome measure to examine possible effects of these COA activities on the health of the older population. Only four of the seven new COAs have been operational for a long enough time to have much effect on avoidable hospitalizations. Therefore, this analysis should be viewed primarily as a model for analyses that can be done in the future when more years of data are available. The analysis is performed using annual hospital discharge data from 1998 through 2003.

The comparisons we make are between the counties in which the COA facilities are located and other counties in their regions. This design reflects a hypothesis that any effects of the COA services will be strongest in the counties in which the centers are located because they draw most of their clients from close to the centers. In addition, we examine Pulaski County separately because this is the location of the Donald Reynolds Center on Aging, which is a mature program, in contrast to the other COAs that are just beginning operation.

Figure 11.4 graphs the percentage of Arkansans over age 65 years who had at least one avoidable hospitalization for an acute or preventable condition. We plot these results separately for Pulaski County, the thirteen counties in which either a main or satellite COA facility is located, and the remaining counties without a COA facility. Throughout the period, avoidable hospitalization rates were higher in areas without COAs than elsewhere, but they were increasing everywhere. Based on our hypothesis that the COAs will have a greater impact on health care in the counties in which they are located, we expect future analyses to show a downward turn in the trend for the COA counties containing COA facilities relative to the trend for the other counties.

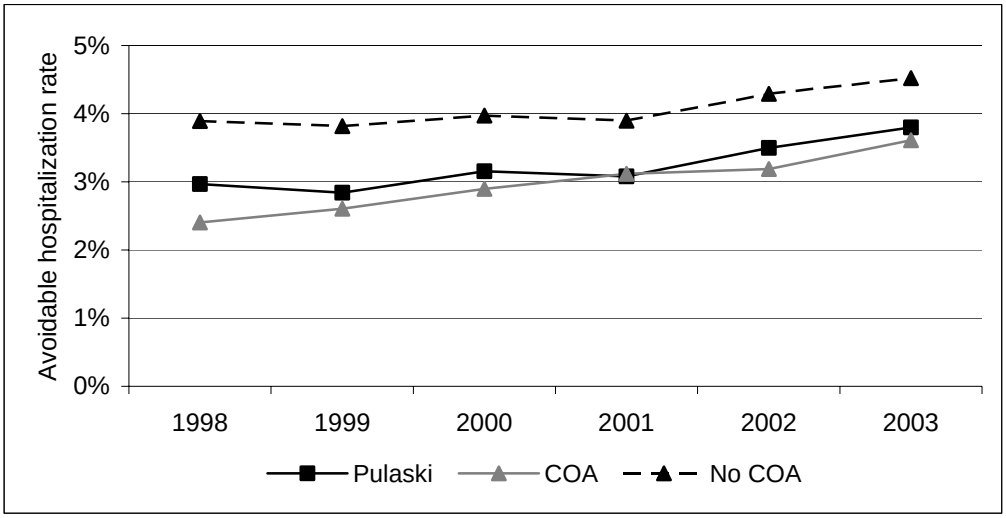


Figure 11.4 Fraction of Elderly with at Least One Avoidable Hospitalization for Preventable and Acute Conditions, Comparison of Counties

Figure 11.5 graphs the same avoidable hospitalization rate for the four counties in which the main facilities are located for COAs that have been in operation since 2002 or earlier. The Schmieding Center, which is located in Washington County, has been operational since 1999, and the South Arkansas COA (SACOA), which is located in Union County, became operational in October 2001. The other two COAs started operation in 2002. The Texarkana COA, which is located in Miller County, opened in July 2002, and the COA Northeast, which is in Craighead County, opened in September 2002. As seen at the bottom of the Figure, Miller County, which contains the Texarkana Regional COA facility, has an exceptionally low rate of avoidable hospitalizations. This can be attributed to the presence of several hospitals just across the border in Texas, making the data for this county of little use.

The avoidable hospitalization rate for Washington County, in which the Schmieding Center is located, has been relatively constant since 2000, one year after the COA started operations. The rate for Union County (SACOA) appears to be leveling off following the opening of the COA in 2001, but the drop in rate in 2003 does not provide sufficient evidence to conclude yet that a new trend has started. Likewise, the rate for Craighead County (COA Northeast) increased less in 2003 than it had in previous years. For each of these counties, as well as for the other counties whose COAs are just becoming active, the future direction of these trends will provide evidence regarding the effectiveness of COAs in promoting access to health education and quality health care.

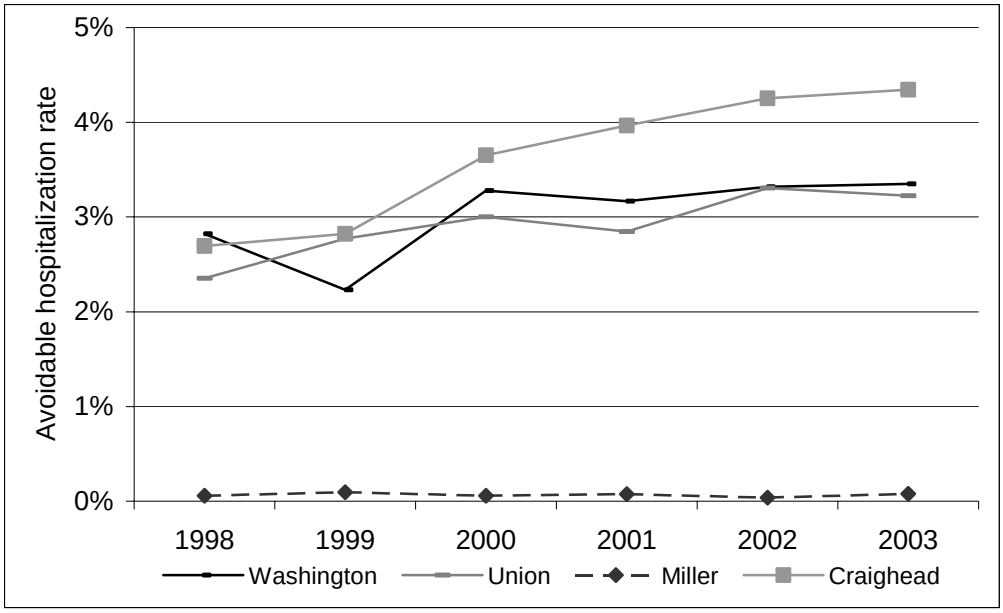


Figure 11.5 Fraction of Elderly with at Least One Avoidable Hospitalization for Preventable and Acute Conditions, Four Counties with COAs

DISCUSSION

The outcome analysis results that we present in this Chapter provide useful information on baseline trends for the health conditions being considered, and they provide insights into possible early effects of some of the programs supported by the Tobacco Settlement funds. Given the early nature of these results, as well as the cost involved in obtaining and working with data for national or regional comparisons, at this time we only present the Arkansas trends. Further analysis will be performed as the evaluation continues, to compare these trends to regional and national trends, to determine how well Arkansas is progressing relative to other areas in improving the health status for the populations being targeted by the funded programs.

Chapter 12.
Synthesis and Recommendations

The Initiated Act defined an extensive scope for the Arkansas Tobacco Settlement program. Its components include management of several trust funds, support for the seven individual funded programs, funding of construction loan debt service for three new buildings, and funding for the Tobacco Settlement Commission to provide oversight and monitoring of the program. We began this evaluation report by describing the policy context within which the priorities, goals, and funding allocations for the funded programs were established and currently operate. This context includes the functions of the Tobacco Settlement Commission, including its oversight of the funded programs and its funding of additional community grants with available funds generated by interest earned by the Tobacco Settlement trust fund. Then we examined the progress of each of the seven programs in fulfilling their mandates, as they developed and expanded their programming. Finally, we presented our findings regarding early effects of the programs on trends in tobacco use and other outcomes specific to each program.

In this chapter, we bring together all of these individual evaluation results to present a synthesis of the performance of the Tobacco Settlement Program and its funded programs. We also offer several recommendations for consideration by the Commission and the General Assembly regarding future directions for the use of the Tobacco Settlement funds. Some recommendations address issues we have identified in the operation of the current programs. Other recommendations address policy considerations that emerge from a review of the priority health needs for the state of Arkansas and an assessment of how well the scope of the funded programs are addressing these priority needs.

SUMMARY OF PERFORMANCE THROUGH FISCAL YEAR 2004

The Initiated Act stated basic goals to be achieved by the funded programs through the use of the Tobacco Settlement funds, and it also defined indicators of performance for each of the funding programs—for program initiation, short-term, and long-term actions. The basic goals are listed in Chapter 2.

As discussed in chapter 10, it is premature to draw conclusions regarding the programs' basic goals or long-term performance indicators. It is too early in the life of the programs to expect to observe many effects on health behaviors or health status, although some early results from our outcome analyses suggest that stronger effects may be seen within two to three years. We can and do, however, assess progress in implementing the programs.

We summarize in Table 12.1 the performance of the seven programs on their initiation and short-term indicators. Based on our evaluation of the programs' activities and progress, we conclude that all except one of the programs achieved their initiation goals, and with two exceptions, they have achieved their short-term goals. We observed quite a bit of variation among programs in the length of their start-up times, which are reflected in the quarterly spending trends reported in the chapters for the individual programs. We note that these variations are driven largely by differences in the degree to which programs were building upon existing efforts. Those that were starting entirely new programs had a longer lag in operational growth during the first year than those that already had program foundations in place (e.g.,

Arkansas State University within ABI, College of Public Health, and Centers on Aging of the Aging Initiative).

Table 12.1 Summary of Program Status on the Initiation and Short-Term Performance Indicators Listed in the Initiated Act

Indicator	Text of Indicator in the Initiated Act	Status
Tobacco Prevention and Cessation		
Initiation	The Arkansas Department of Health is to start the program within six (6) months of available appropriation and funding.	Goal met
Short-term	Communities shall establish local Tobacco Prevention Initiatives.	Goal met
College of Public Health		
Initiation	Increase the number of communities in which participants receive public health training.	Goal met
Short-Term	Obtain federal and philanthropic grant funding.	Goal met
Delta Area Health Education Center		
Initiation	Start the new AHEC in Helena with DHEC offices in West Memphis and Lake Village within twelve (12) months of available appropriation and funding.	Goal met
Short-Term	Increase the number of communities and clients served through the expanded AHEC/DHEC offices.	Goal met
Arkansas Aging Initiative		
Initiation	Start the program within twelve (12) months of available appropriation and funding.	Goal met
Short-Term	Prioritize the list of health problems and planned intervention for elderly Arkansans and increase the number of Arkansans participating in health improvement programs.	Goal met
Minority Health Initiative		
Initiation	Start the program within twelve (12) months of available appropriation and funding.	Goal met
Short-Term	Prioritize the list of health problems and planned intervention for minority population and increase the number of Arkansans screened and treated for tobacco-related illnesses.	Goal partly met
Arkansas Biosciences Institute		
Initiation	The Arkansas Biosciences Institute Board shall begin operation of the Arkansas Biosciences Institute within twelve (12) months of available appropriation and funding.	Goal met
Short-term	Arkansas Biosciences Institute shall initiate new research programs for the purpose of conducting, as specified in Section 15: agricultural research with medical implications; bioengineering research; tobacco-related research; nutritional research focusing on cancer prevention or treatment; and other research approved by the Institute Board.	Goal met
Medicaid Expansion		
Initiation	The Arkansas Department of Human Services is to start the program initiatives within six (6) months of available appropriation and funding.	Goal partly met
Short-term	The Arkansas Department of Human Services demonstrates an increase in the number of new Medicaid eligible persons participating in the expanded programs.	Goal partly met; slow enrollments

One of the performance exceptions we identified is the Medicaid Expansion. This program was not able to implement one of its four Medicaid benefit expansions and has spent only a small fraction of its Tobacco Settlement appropriations. The failure to implement the AR-Adult program was due to refusal by CMS to approve the benefit expansion, despite the best efforts of the Medicaid program staff, because CMS had concerns that the program would not be budget neutral. The three expansion programs that were implemented spent much less than planned due to a combination of low enrollments and under-use of covered benefits by enrollees, in part due to inadequate outreach and communication to eligible individuals about the benefits available to them. These funds are to be used to support expanded health insurance coverage for low income individuals who do not have access to group health insurance and do not otherwise qualify for Medicaid. Instead, the unspent funds have been placed in the Rainy Day Fund to cover funding shortfalls for the Medicaid program.

The other performance exception is the Minority Health Initiative operated by the Arkansas Minority Health Commission, which met only part of its short-term goal. The management leadership of the AMHC changed soon after the Tobacco Settlement funds became available. The Minority Health Initiative was able to meet the goal of being initiated within 12 months of available appropriation and funding, but the change in management led to slow early progress in implementing its program components. The pace of growth continued to be slow through the following two years, even after new leadership was well established and running the program. This slow growth is observed in the weak trends for screenings and service activities performed by the program as well as in its under-spending of the Tobacco Settlement funds (see Chapter 7). In addition, the program did not meet its short-term goal of establishing a list of priority health problems and planned intervention for minority population.

The remaining programs generally have been very effective in implementing the activities mandated by the Act. For each program, we have identified issues that should be addressed and areas for needed improvement, but none of these issues are so large as to call into question the overall effectiveness of their program operation.

For both the Minority Health Initiative and the Medicaid Expansion, we offer specific recommendations for actions to address the shortcomings in achieving the desired scopes of their programs. These recommendations are presented at the end of the chapters that report the process evaluation results for their respective programs (Chapter 7 for the Minority Health Initiative and Chapter 9 for the Medicaid Expansion). As discussed later in this chapter, we believe that both of these programs are important components of a strategy to address the priority health needs of Arkansans. Therefore, it will be important to strengthen the programs, so they can make effective use of the resources made available by the Tobacco Settlement funding for serving those needs.

COMMON THEMES AND ISSUES

Although the experiences and lessons from each of the funded programs are unique, reflecting the diverse nature of the programs, some common themes and issues have emerged from this evaluation cycle that apply across the programs. We present these issues here along with recommendations for actions to strengthen the programs in the future.

Collaboration and Coordination Across Programs

As we observed the operations of the funded programs during our process evaluation, it became clear that some programs already were working together, and there also were opportunities for collaborative programming that had not yet occurred. Additional collaboration and coordination among the programs would strengthen their ability to serve the goals of the Act, to use the Tobacco Settlement funds more efficiently, and to enhance needed health services for Arkansans.

Recommendations. We encourage the programs to pursue opportunities for collaboration as their work continues. Some examples that could be pursued include:

- Delta AHEC, MHI, and COPH working together for training and recruitment of health professionals for the Delta region.
- Partnering of the Delta AHEC and MHI in the delivery of education and other health-related services to residents of the Delta region
- Coordination of the tobacco prevention and cessation program offered by the Delta AHEC and the ADH tobacco programming in the Delta region, to make optimal use of their combined resources.
- Within the ADH program, collaboration between the local community coalitions and other ADH programs to increase their impacts on smoking behaviors in the local areas served, including merchant inspections conducted by the Tobacco Control Board and the media messages of the SOS media campaign.
- Coordination of services provided by the MHI and the minority program that is part of the ADH tobacco prevention and treatment program.
- Collaboration between the COPH and the regional Centers on Aging, with their AHEC partners, to establish training programs in the AHEC regions for health care managers.

Governance Leadership and Strategic Direction

Throughout our process evaluation, we found that the programs tended to focus on the priority of getting their programs operational and starting service delivery. In that process, there was substantial variation across programs in the extent to which their governing bodies were engaged in the process or guided priorities and strategy. Now that the startup period is over and the programs are more mature, the governing bodies should be taking active roles in guiding the future strategic direction for the programs.

The diversity of the programs is reflected in the wide variety of governing bodies they have. The Initiated Act established a board of directors for the Arkansas Biosciences Institute and specified the membership of that board. Some programs, such as the Centers on Aging in the Aging Initiative, are components of much larger organizations, so they do not have a Board of Directors. Nor do other programs, such as the ADH, that are part of the state government. The Centers on Aging have established advisory committees that serve in a fund raising capacity, and some also provide policy guidance. The ADH has a Tobacco Prevention and Cessation Advisory Committee that was specifically required by the Initiated Act. In addition, separate state law created the Minority Health Commission to address minority issues, with Commission members appointed by the governor and the Commission staff reporting to this body.

Regardless of the nature of a program's governing or advisory body, these boards should be bringing added value to the programs as "arms length" observers and guides. The role of these bodies is especially important for those programs that are bringing together disparate organizations to collaborate on a program's activities. Obvious examples are the ABI Board and the advisory boards of the Centers on Aging.

Recommendation. We offer the following recommendations for program governance:

- The governing boards or advisory boards of the funded programs should work with program management in defining a clear direction for the program, and should perform a constructive oversight function to ensure the program is accountable for quality performance.
- Individuals who can provide expertise on the goals defined for the program by the initiated Act should be included in the membership of the program governing boards or advisory boards. For example, under the MHI, the AMHC now is expected to deliver effective health interventions in minority communities in addition to its original advocacy role, but the composition of the Commission has not been changed to reflect this expanded mission.

Monitoring and Quality Improvement

As we worked with the funded programs to collect data on the process indicators, we observed that several of the programs experienced difficulties in collecting this information. This issue reflects the fact that few of the programs have put into place an internal accountability mechanism for regular monitoring to track the program's progress and provide feedback on results. Such a monitoring process, when well implemented, is essential for performing regular quality improvement and assessing how well each program component is meeting its goals.

The programs also have external accountability for performance, as legislators and other state policy makers want to know whether the investment in these programs is achieving the intended results in health status improvement. The RAND evaluation provides information for the external accountability, as well as the perspective of an external observer. However, RAND depends on data provided by the programs to inform its analyses. Furthermore, the programs themselves need to be able to document and report on their performance to these external stakeholders, beyond the scope of the external evaluation.

Recommendations. We offer the following recommendations for actions the programs should take to monitor and improve quality and to assess their effects on health outcomes:

- Drawing upon the basic principles of continuous quality improvement methods, the funded programs should have in place an ongoing quality monitoring process that has the following key elements:
  - a set of valid indicators that represent key performance aspects of the program;
  - the collection of data as an integral part of the program operation, including data on program enrollments, demographic characteristics of enrollees, service encounters, feedback from enrollees through surveys or other data collection, and outcomes;
  - corrective actions taken on the issues identified in the monitoring process to address problems and strengthen service delivery; and

  - regular analysis of the data and reporting to the program management and oversight board and committees.
- The performance indicators and corrective actions should change over time to bring about ongoing, incremental improvements in the program operation.
- The long-term goals for the programs specified in the Act should be revised periodically to establish more appropriate and measurable goals that address the key effects the programs should be achieving.
- Sufficient resources should be allocated to build capacity at the program and community levels to ensure that they can comply with the above recommendations, including investments by programs in staff training as well as technical support from the Tobacco Settlement Commission.

Financial Management

For most programs, our analysis of the spending of Tobacco Settlement funds was complicated by a diversity of problems, ranging from an inability to extract data from the state finance system to incomplete or inaccurate records maintained in programs' local accounting systems. The notable exception was the ADH Tobacco Prevention and Cessation program, which has a well-structured set of accounts that delineates spending for each of its program components and provides usable information for the program management on a regular basis.

The troubling finding from this experience is that few of the programs have tracked their spending trends closely over time as part of their normal management processes, and some of the programs do not have systems in place that enable them to do so. It appears that the programs have tended to focus their accounting activities on reporting requirements for the state and to rely on related reports for their financial information. We have identified issues in two areas: budgeting for the appropriation process and the program financial management and accounting. Presented here is a summary of issues and recommendations for each area.

The appropriation process and fund allocations. The first appropriations for the Tobacco Settlement programs (for fiscal years 2002 and 2003) allocated the funds to specified budget line items based on budgets developed by the programs and submitted to the state. The appropriations legislation prohibited spending in excess of the appropriated amount for each budget item without the approval of the Legislative Council, a requirement that was continued in the appropriations legislation for fiscal years 2004 and 2005.

During the initial budgeting process for the programs, an unfortunate combination of issues arose that resulted in appropriation allocations across expense classifications that did not fully match the operational needs of some of the programs. One issue was the newness of the programs. Because the programs did not have previous operating experience to guide their initial budgeting, it was difficult for them to project growth and related expenses during the startup period. Another issue was inadequate information on the definitions of the line items in the appropriations, such as travel expenses or capital outlays. For example, by definition, the travel expense line item covers only out-of-state travel costs, but at least one of the programs used that line item for in-state travel expenses in their budget. A third issue was the short time the programs were given to develop and submit budgets to the state. The programs reported they were given only hours to develop their initial budgets, which contributed to errors in estimating the budget allocations.

Some of the programs felt the constraints of the appropriation funding allocations more than others. For example, the Aging Initiative found that too much of its funding was allocated to capital outlays and too little to operating expenses. This situation led to the swapping of expenses between partnered AHECs and COAs that we describe in Chapter 6. The Delta AHEC had budgeted travel expenses that they thought could be used for in-state travel, but they were not able to use those funds because the line item was restricted to out-of-state travel (see Chapter 5). One of the institutions in the ABI ended up returning some personal service matching funds that it could have used for operating expenses (see Chapter 8).

The problems with the appropriations are observable in the spending adjustments and inconsistencies in reported spending that we found in our spending analysis, both of which made it difficult to interpret spending trends. We also heard frequent reports by program staff working with the state financial system that they have developed techniques for working around constraints in the appropriations. (See examples in the spending analyses in Chapters 5 and 6.)

As the program leaders prepared for the second biennial appropriations, they were reluctant to make substantial changes to the fund allocations for fear of opening up the entire package to funding changes or reductions. This reluctance stemmed from their perceptions that continued program funding was at serious risk, as they saw legislators looking for ways to shift the Tobacco Settlement funds away from support of their programs to supporting other financial needs of the state. In particular, the UAMS executive management decided to retain the original line item allocation of funds the second appropriations for all of the programs funded through its system. These included appropriations for the Aging Initiative, Delta AHEC, College of Public Health, and the UAMS portion of the ABI.

As a result of the inaction by the program leadership in correcting the earlier problems with the appropriations, the spending constraints experienced by the programs in the first two fiscal years were perpetuated in the FY 2004-05 appropriations. These constraints hindered several programs from using their funding effectively, in particular because distributions that are appropriate during a program's start-up phase typically differ from its subsequent operating needs. In addition to creating inefficiencies in the operations of some programs, this decision has led to intense discomfort on the part of program staff regarding the accounting practices they have employed to be able to use the available funds. This year offers an opportunity to establish new appropriations that better reflect the actual spending needs of the programs.

Recommendations. To this end, we offer the following recommendations:

- The state should use the upcoming appropriations process to enable the programs to start fresh with budgets that accurately reflect their actual operating expenses by line item. The state should provide the programs with clear definitions of the appropriation line items as well as guidance for the budgeting process, so that programs understand clearly how they can use funds in each line item to support their activities.
- The programs should restructure the budgets they submit to the state for the next appropriations process so that allocations of spending across line items reflects actual program needs and are consistent with the appropriations definitions.

Financial management and accounting. Some of the programs have the needed financial staff in place, but several are lacking in some aspect of the bookkeeping or accounting skills needed for effective financial management. Additional training and support should be provided

to the programs, as needed, to strengthen their ability to document their spending accurately and to use this information to guide program management.

Recommendations. We offer the following recommendations for actions to be taken:

- Every program should have in place a *local* automated accounting system that it uses to record expenditures as they occur and to report spending to its governance and management on a monthly basis. This system would provide the detailed financial information needed for program management that are not provided by the larger systems within which many of the programs work (e.g. the state or UAMS financial systems).
- The personnel who perform the accounting function in each program should have the relevant qualifications, including training in bookkeeping or accounting as well as in the accounting systems being used. Programs whose personnel do not have these qualifications should train existing personnel as needed or hire qualified personnel.
- Within the programs' local accounting systems, separate accounts should be set up for each key program component so that the program can budget for and monitor spending by component.
- The management of the programs should monitor program spending on a monthly basis using income statements and support documentation, and financial statements should be reported to the program governing body at every meeting. Variations from budget should be identified and explained.
- The staff responsible for the program financial function should be given formal training on use of the relevant external accounting system to which their programs report expenditures (e.g., state system, UAMS system).

Monitoring by the Tobacco Settlement Commission

The Tobacco Settlement Commission has an important role in ensuring the effective use of the financial resources that the Tobacco Settlement has provided to Arkansas. As discussed in Chapter 11, the Initiated Act established the Commission to oversee the programs supported by the Tobacco Settlement funds, to monitor the programs activities, and to evaluate their effects on the health of Arkansans. The RAND evaluation is part of the monitoring and evaluation process established by the Commission under this mandate. The Commission can use the information and recommendations in this report to guide its future activities, as it continues to oversee the programs' performance and to provide support for programs to correct identified shortcomings.

During the initial years of program operation, the programs and the Commission have focused on getting the programs operational and beginning service delivery. The programs now are moving into the next phase of their operations, consolidating their existing activities and planning for future development and growth. As the programs move forward, it will be important for the Commission to hold them to uniformly high standards of performance and results.

Recommendations. We offer here our recommendations for Commission actions:

- The Commission should modify the content of the regular quarterly reports from the programs to require routine reports on their progress in addressing the issues identified in this evaluation. General issues to be addressed include:

1. involvement of the programs' governing body (or advisory boards) in guiding program strategy and priorities
2. specific progress of the programs in achieving the goals and objectives of their strategic plans,
3. actions being undertaken for continuous quality improvement and progress in improving services, and
4. actions being taken for collaboration and coordination among programs to strengthen programming.

Each program's quarterly report also should address the program-specific issues and recommendations presented for it in this report (in each program chapter).

- The Commission should work with the state finance office and the funded programs to ensure that the programs are correcting the inadequacies of the accounting and financial management processes that this evaluation has identified.
- To ensure that program spending is being monitored regularly, the Commission should require the programs to submit quarterly financial statements of budgeted versus actual spending. The financial statements should be in sufficient detail to enable the Commission to identify variances from budget, and explanations of variances should be provided.
- The Commission should earmark a modest portion of the Tobacco Settlement funds ($150,000 to 200,000 each year) to finance a mechanism of external consultants that makes technical support available to the funded programs. This support should be targeted to help the programs correct some of the issues summarized in this chapter and discussed in further detail in chapters 3 through 9. The support could include, for example, support for data collection for performance measures, needs assessments, budgeting, or grant writing. It also can be a useful resource when programs have short-term needs for specific skills or knowledge that their staff do not have. For example, the COPH would be one appropriate resource to provide such technical support.
- The Commission should establish expectations for the performance of the governing bodies of the funded programs with respect to providing policy and strategic guidance for their programs, as well as monitoring program performance.
- As the programs mature further, and more longitudinal information becomes available on outcomes, the Commission should ensure that outcome evaluation work continues to document the extent of those effects. Meanwhile, the Commission should interpret early outcome information with caution to ensure that conclusions regarding the programs' effectiveness are grounded on sufficient data.

ARE THE GOALS IN THE ACT THE CORRECT GOALS?

As discussed in Chapter 2, the process that generated the program and funding mix for the Arkansas Tobacco Settlement funds was a "grassroots" process that involved numerous stakeholder groups with health care concerns. In addition, the ACHI informed the process with a position paper on the use of the Tobacco Settlement funds and with data on the health status of

Arkansans and health care services provided in the state (ACHI, 1999). Therefore, this process yielded a set of programming priorities that reflected the important health needs of the state at the time it took place. Some priorities may have been missed as the funding allocations were originally designed, however, or priorities may have changed in the intervening years.

Another role for this evaluation is to step back and look at the larger picture, to review how well the scope of services provided by the seven funded programs responds to the current state health priorities. We examine this question here, drawing heavily upon data generated by the Tobacco Settlement programs themselves, as they performed needs assessments and developed information on other health care issues in the state. We first present summary information on the current health status and access to health care for Arkansans, updating the information provided by ACHI (1999) in its position paper on use of the Tobacco Settlement funds. Then we assess the extent to which the programs supported by the Tobacco Settlement funds are addressing those priority needs. Finally, we offer some recommendations to adjust spending of the Tobacco Settlement funds to be responsive to the priority health needs of the state, for consideration by the Tobacco Settlement Commission.

Top Health Priorities for Arkansas

We have identified the following areas that should be considered in identifying health priorities for the state: the health status of the population, health care needs of the older population, availability of health care services, disparities in access to health care, insurance coverage, and expanded knowledge through health research. We provide here a summary of the issues identified for each of these areas.

Health Status

- Arkansas has a higher overall death rate than the rest of the country,
- Heart diseases and cancer are the top two killers in Arkansas, as well as for the country.
- Hypertension is a serious risk factor for heart disease, with disproportionate prevalence in minority populations.
- Obesity, smoking, and physical inactivity are the most important preventable contributors to morbidity and mortality in general, as well as to heart disease, cancer, and stroke.
- Rates of both infant mortality and low birth weight in Arkansas are substantially higher than those for the U.S., and rates for births to African American women in Arkansas are higher than those for white women.

According to mortality data on the ADH web site, age-adjusted death rates in Arkansas are 11 percent higher than those for the U.S. Deaths from heart disease and cancer substantially overshadow the next ranked causes of death for both Arkansas and the country. According to a report by the National Heart, Lung, and Blood Institute (Chobanian, et al., 2003), the risk of cardiovascular disease increases continuously with blood pressure levels. Hypertension affects approximately 50 million individuals in the United States, and current control rates are still far below the Healthy People 2010 goal of 50 percent; 30 percent are unaware they have hypertension. Adoption of healthy lifestyles is critical for prevention and management of hypertension, including weight reduction in those who are overweight or obese, physical activity, dietary sodium reduction, and moderation of alcohol consumption.

Arkansas rates for obesity, smoking, and physical inactivity are higher than those for the U.S., as reported in the briefing to legislators prepared by the College of Public Health in collaboration with the ACHI and the Arkansas Department of Health (2003). Reductions in these behaviors can reduce mortality rates for the two top killing disease as well as for stroke. Arkansas has the highest rates of stroke mortality in the nation; and rates are particularly high among African-American men.

The Arkansas infant mortality rate was 8.3 deaths per 1,000 live births in 2000, according to birth data on the ADH web site, compared with 8.5 deaths per 1,000 live births in 1999 and a national average of 6.9 deaths per 1,000 live births. African American infants in Arkansas had an infant mortality rate of 13.6, compared to a rate of 7.0 for white infants.

The Arkansas rate of low birth weight births also is higher than the U.S. rate. The Arkansas rate in 2000 was 8.6 percent of low-birth weight births, compared to 7.6 percent nationally. The rate among white infants decreased from 7.4 percent in 1999 to 7.2 percent in 2000, while the rate among African American infants increased from 12.9 percent in 1999 to 13.8 percent in 2000.

Health Care Needs of the Older Population

- The elderly population represents a larger percentage of the total population in Arkansas than in the country.
- The most important health problems reported by older adults are arthritis, high blood pressure, and heart trouble.
- The most important health needs reported by older adults were affordable prescription medications, affordable health care, and affordable health insurance.

Data from the 2000 Census show that persons age 65 years or older are 14.0 percent of the total Arkansas population, which is a decrease from 14.9 percent in 1990. The percentage of elderly in Arkansas is higher than the 12.4 percent of elderly in the total U.S. population.

One of the first tasks undertaken by the Arkansas Aging Initiative was to perform an assessment of the health care needs of the older population in the state. Separate needs assessments were performed in each of the seven regions to be served by the new Centers on Aging that were established with support of the Tobacco Settlement funds. The results of the needs assessment guided the Aging Initiative programming. Collectively, these efforts yielded statewide information on the needs of Arkansans older than 65 years, which can help guide identification of health priorities for the state. The health problems and priority health needs reported by the older adults in the needs assessment performed by the Aging Initiative are displayed in Figures 12.1 and 12.2 respectively (Beverly, 2003).

Availability of Health Care Services

- Arkansas has shortages of health care practitioners in the rural areas of the state.
- Many rural hospitals have converted to critical access hospitals, taking advantage of special Medicare payment policies to retain rural hospital capacity.

Given the broad range of services involved in health care, it is difficult to characterize the availability of services succinctly. In this discussion, we examine the supply of physicians, availability of community health centers as other sources of primary care, and access to hospital

services, focusing on service availability in rural areas of the state. As shown in Figure 12.3, Arkansas is a rural state, with many of the counties having low population densities.

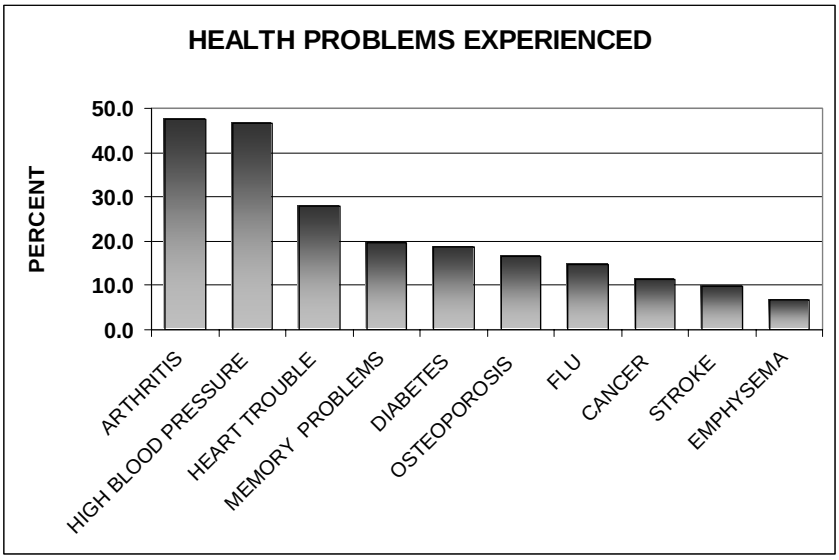


Figure 12.1 Health Problems of Older Adults

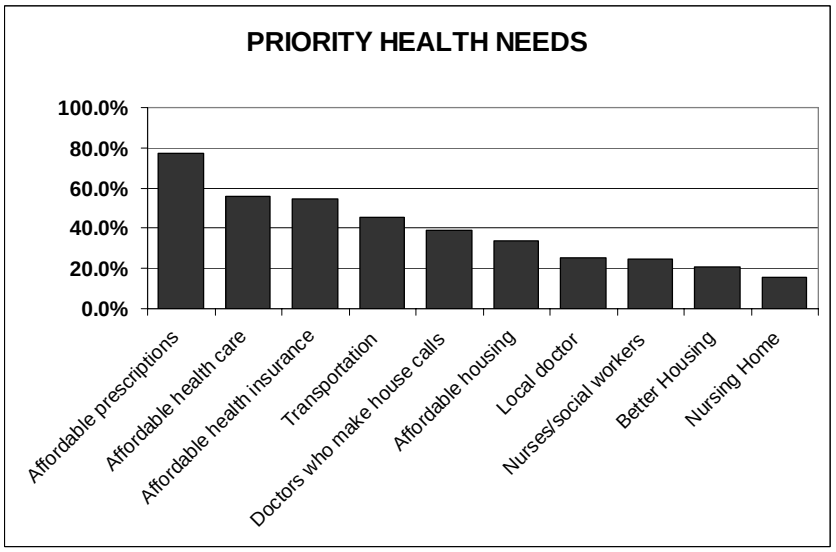
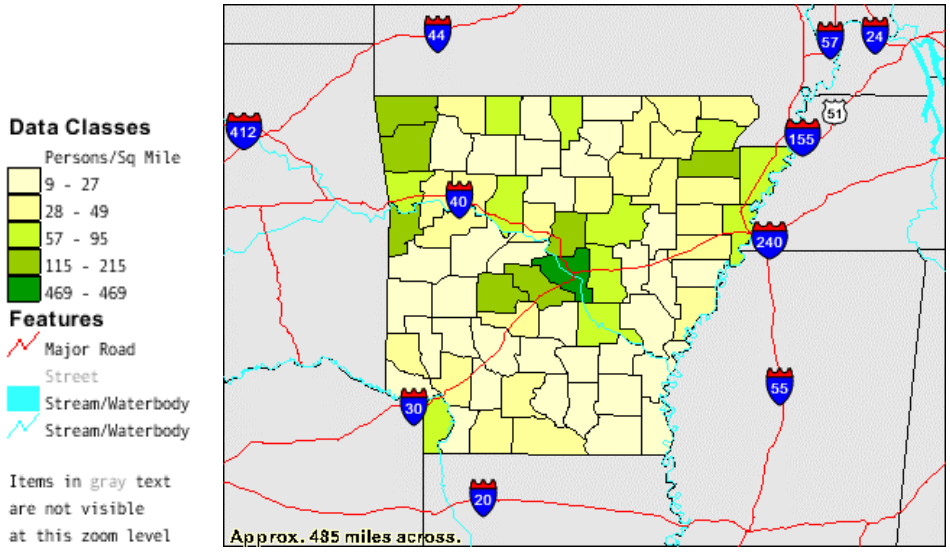


Figure 12.2 Priority Health Needs of Older Adults

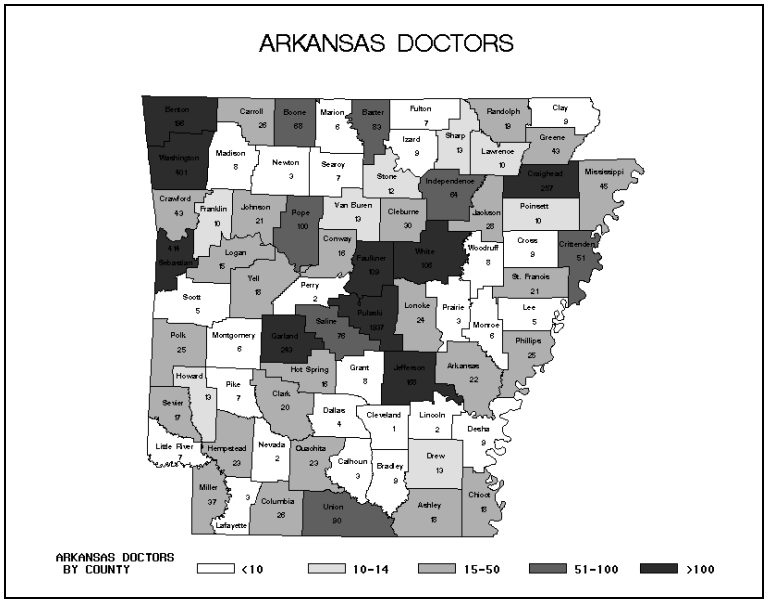
Like other rural states, Arkansas has shortages of providers in the rural areas, which are revealed through several measures. The most obvious measure is the supply of health care practitioners. Figure 12.4 charts the number of physicians by county in Arkansas. Comparing the distributions of population density in Figure 12.3 and physicians in Figure 12.4, it is clear that counties with lower population density have fewer physicians. Reflecting this pattern, more than half of Arkansas counties have been designated as health professional shortage areas (ADH

Office of Rural Health, 2002). There are more than 40 community health centers serving in rural areas of the state (COPH, et al., 2003). These clinics provide primary care services in areas with under-supplies of physicians.



Source: Census 2000 Summary File

Figure 12.3 Population Density for Arkansas Counties, Census 2000



Source: Arkansas Department of Health, Center for Health Statistics. The Health Professions Licensing Survey Manpower Statistics, 2002. (from the website http://www.healthyarkansas.com/stats/hpl2002/DOCMAP.HTM).

Figure 12.4 Number of Physicians Serving Arkansas Counties

Another common challenge for rural areas is maintaining access to hospital inpatient care. In response to this challenge, the Medicare program established a program of critical access hospitals (CAC), including special payment provisions, to help retain hospitals in rural areas. The CACs are down-sized primary care inpatient hospitals with a small number of beds. Their role is to receive and stabilize patients, treat those with uncomplicated problems, and transfer those requiring more specialized care to larger hospitals outside of the immediate area. Arkansas has 17 CACs distributed across its rural counties (COPH, et al., 2003).

Disparities in Health Care

- There are substantial differences between African Americans and whites in Arkansas for health status and mortality rates.
- African Americans reported they were suspicious of the health care system, expressing distrust of physicians, insurers, hospitals, and pharmaceutical companies based on experiences in obtaining health care.
- Many minorities reported they have experienced discrimination from health care providers in the form of assumptions about their background and understanding based on language or color.

The Minority Health Commission supported a study of health disparities for Arkansans by faculty in the College of Public Health that examined disparities in health status, mortality rates, and experiences with the health care system. This study, which was funded in part by Tobacco Settlement funds and in part by appropriations authorized by state legislation, generated rich information that highlights a variety of health disparities for minority populations in the state (Nash and Ochoa, 2004).

The Nash and Ochoa study found strong differences between African Americans and whites in health status and mortality, with African Americans experiencing lower health status and higher death rates, both overall and by leading causes of death. In particular, compared with other groups, African Americans were 242 percent more likely to die from HIV/AIDS, 150 percent more likely to die from diabetes, and 143 percent more likely to die from prostate cancer.

Similar contrasts were found for experiences with the health care system, which were reported from a series of focus groups conducted by the Nash and Ochoa study. The African American participants reported suspicion with the health care system that they had developed based on experiences in obtaining health care. They expressed distrust of physicians, insurers, hospitals, and pharmaceutical companies. Individuals for whom English was not their first language experienced barriers due to communications problems and unavailability of translation services. Many participants reported they experienced discrimination in the form of assumptions made about their background and understanding based on language or color. All of these factors were cited as barriers to obtaining access to appropriate care.

Insurance Coverage

- Estimates of rates of uninsurance in Arkansas are very similar to those for the country.
- Arkansans age 19 to 64 years have the highest rates of lack of insurance coverage of all age groups.

According to the MEPS survey performed by the Agency for Healthcare Research and Quality, 15.8 percent of Americans were uninsured in 1999. By age group, 23.1 percent of children and adolescents were uninsured, and 19.7 percent of those age 19-64 were uninsured (Rhoades and Chu, 1999).

Estimates are very similar for Arkansas, according to a report by the Arkansas Center for Health Improvement (2002). An estimated 15 percent (~0.4 million) of Arkansans were uninsured in 2001. Coverage differed by age; 13 percent of children and adolescents were uninsured, and 20 percent of adults age 19 to 64 were uninsured. The difference between Arkansas and the US in insurance rates for children and adolescents probably reflects the presence of the ARKids First program.

Expanded Knowledge Through Health Research

As discussed in Chapter 1, ACHI developed a position paper on spending the Arkansas Tobacco Settlement funds that laid out four principles to guide the allocation of the funds to better the health status and well being of Arkansans (ACHI, 1999). One of these principles was to spend funds on long-term investments that contribute to this goal, including health research to advance knowledge of tobacco's effects on health and to develop tools to prevent future tobacco-related illness.

How the Funded Programs Address the Priority Health Issues

All of the state's priority health issues identified here are being addressed in some way by the programs supported by the Tobacco Settlement funds, as shown in Table 12.2. However, we have identified some areas of incomplete or limited coverage that we describe here for the Commission's consideration.

Table 12.2 Arkansas Health Issues Addressed by the Tobacco Settlement Programs

State Health Priority	ADH	COPH	Delta AHEC	AAI	MHI	ABI	Medi-caid
Populations served/addressed	All	All	Delta Region	Elderly	Minor-ities	All	Poor
Health Issues:							
Smoking	X	X	X	X		X	
Obesity	X	X	X	X	X	X	
Inactivity	X	X	X	X	X		
Hypertension		X	X	X	X		
Infant mortality; low birth weight		X	X		X	X	X
Medical services in rural areas		X	X	X			X
Disparities in health care		X	X	X	X	X	X
Health needs of older population		X	X	X	X		X
Health insurance coverage							X
Health research		X				X	

The health issues that are most completely addressed by the Tobacco Settlement programs are smoking, hypertension, health needs of the older population, health insurance coverage, and health research. For smoking, the ADH program is a comprehensive, statewide program. It is complemented by community education activities by the Delta AHEC and Aging Initiative,

professional education activities of the College of Public Health, and relevant research by COPH and the ABI institutions. Hypertension is addressed directly by several programs, including the Delta AHEC, AAI, and MHI, as well as research performed at the COPH. The hypertension services of the Delta AHEC and MHI are serving only the Delta region, targeting this high priority health issue for the minorities living in the region.

For health needs of the older population, the Aging Initiative is a statewide program of educational services provided by the Centers on Aging and coupled with clinical services provided by local or regional hospitals through the Senior Health Centers affiliated with the COAs. In addition, the Delta AHEC provides preventive health programs for elderly residents in the Delta region, MHI serves elderly minorities, the Medicaid AR-Seniors provides health care coverage for the poor elderly, and the COPH provides professional education programs.

For health insurance coverage, the Medicaid expansion provides insurance coverage for low income individuals across the state whose incomes are too high to quality for regular Medicaid benefits. Through this expanded coverage, Medicaid also addresses disparities in health care, needs of the elderly, and services in rural areas.

The expanded Medicaid coverage for pregnant women specifically addresses infant mortality, low birthweight by expanding access to prenatal care. The Delta AHEC and MHI also are addressing birth outcome issues, as is research performed by the COPH and ABI.

The Delta AHEC addresses many of the other priority health issues through its community education and health prevention programs, but these services are available only to residents of the Delta region. Although other AHECs serve other regions, they generally have less comprehensive community programs than the Delta AHEC, tending to focus instead on the health practitioner training aspect of their roles.

The health issues that appear to have the least coverage by the Tobacco Settlement programs are the health behavior issues of obesity and inactivity, health disparities, and the issue of medical care services in rural areas. Community programs on obesity and inactivity are being provided by the ADH using funds taken from the tobacco prevention and cessation program, and the Delta AHEC and MHI also are providing services in parts of the state. The COPH also has made a commitment to ensure the focus on obesity as one of the two major foci of the College (along with tobacco), and it is focusing on health behavior aspects of obesity and physical inactivity in its educational, research and service programs. However, the state's programming activities and resource commitment to address these behavioral problems do not yet appear to be of a magnitude that is comparable to the size of the problems.

The Nash and Ochoa study highlights the unresolved issues of disparities in access to and appropriateness of health care for minority populations. In response to their findings, the AMHC developed a strategic plan that provides a starting point for action, and this plan calls upon a range of agencies and organizations to contribute to correcting the inequities in health care. Through the resources of the MHI program, the AMHC has a leadership responsibility for this initiative as well for fulfilling the remainder of its mandate to provide screening and programming for priority health needs of the minority populations in the state.

With regard to rural health professionals, both the Delta AHEC and the COPH are working to build the supply of professionals through training and recruitment efforts, but their efforts have been limited by either geography (the Delta region) or the newness of the program (COPH).

The COPH is training public health professionals who come from all parts of the state, and as these students graduate, many of them are likely to find jobs within the state, which will strengthen the public health service infrastructure. However, there remains a need to increase the supply of health care professionals in rural areas, especially primary care physicians.

RECOMMENDATIONS REGARDING PROGRAM FUNDING

The programs supported by the Tobacco Settlement funds provide an effective mix of services and other resources that respond directly to many of Arkansas' priority health issues. In addition, the College of Public Health and the Arkansas Biosciences Institute are building educational and research infrastructure that will make long-term contributions to the state's health needs. The programs, with but two exceptions, have achieved their initiation and short-term goals, and each programs is making valuable contributions to addressing the health priorities for the state. As the programs continue to grow and mature, and as they continue to leverage the Tobacco Settlement funds to attract other resources, their impacts on health needs also can be expected to increase.

Overall Recommendation Regarding Continued Program Funding. We recommend that the Tobacco Settlement funding continue to be provided to the seven programs that receive these funds. At the same time, the performance expectations for the programs during the next two years should focus on achievement of the outcomes relevant to each program.

In addition to this overall recommendation, we offer the following suggestions regarding possible funding adjustments and related issues for some programs, for consideration by the Commission, Governor, and General Assembly in their policy deliberations.

Minority Health Initiative

This program is uniquely positioned to address directly the health needs and priorities of the minority populations in the state. Although the MHI is substantially behind schedule in establishing its full program operation, it should be given every opportunity to fulfill its mandate under the Act because of the importance of its role in addressing minority heath care issues. However, the unspent MHI funds represent services that have not been made available to minority populations with health needs. Therefore, should the under-spending by the MHI continue, action should be taken to ensure that the resources are put to work in serving those needs.

> ***Recommendation:*** The Commission should work with the Minority Health Commission to help strengthen its MHI programming, set priorities for actions, and fully apply its funding resources to programming for the health needs of minority populations. If the MHC continues to under-spend its Tobacco Settlement funding through fiscal year 2005, then its funding share should be reduced to the level it is spending and the unused resources should be applied to other programming that addresses the health needs of minorities.

Tobacco Prevention and Cessation Program

As discussed in Chapter 3, several pieces of legislation redirected some of the funding intended for the ADH Tobacco Prevention and Cessation Program to other public health activities. As a result, the ADH program currently is funded at levels below the CDC recommendations for tobacco prevention and cessation programs. In addition, its share of the

total Tobacco Settlement dollars now is smaller than what the Initiated Act had designated for tobacco prevention and cessation activities. Some of the funding was taken to support the ADH obesity program, which indeed is another priority health issue for Arkansas. However, funding reductions for tobacco prevention and cessation programming impede its ability to have an impact on smoking behaviors, and any further loss of resources will weaken it yet further.

Other key components of a comprehensive tobacco control program are legislation that bans on smoking in public areas and increased taxes on tobacco products. Both actions would help to reinforce the scope of tobacco control activities and services carried out by the ADH. Arkansas has increased tobacco taxes but currently does not have statewide bans on smoking in public places.

> ***Recommendation:*** The funding share for the ADH tobacco prevention and cessation program should be increased to return its funding level for tobacco prevention and cessation activities to levels that comply with the CDC recommendations.
>
> ***Recommendation:*** The state should move forward with legislation to ban smoking in public places, with a goal to expand the scope of the ban over time, which would reinforce the actions already being taken by the ADH and other organizations to achieve and maintain behavior changes for Arkansans and reduction in smoking rates.

Three general approaches might be undertaken to bring funding for the ADH Tobacco Prevention and Cessation program up to the minimum levels recommended by the CDC: (1) obtain additional funding external to the Tobacco Settlement funds, (2) return the funds originally designated for the ADH program to the program, or (3) shift funding among the Tobacco Settlement programs. The most constructive of these options is to obtain additional external funding to bolster the total amount spent on tobacco prevention and cessation activities. The other approaches of returning funds previously taken from the ADH program or shifting funds from other Tobacco Settlement programs would negatively affect other programs that are serving the state's health needs. In addition, the third option would require changing the funding share provisions stated in the Initiated Act.

Several actions recently have begun in the state to provide additional support for tobacco prevention and cessation. These initiatives will apply additional financial resources that can bring Arkansas closer to compliance with the CDC minimum funding guidelines. One of these is new coverage by the Arkansas State Medicaid program for smoking cessation drugs and professional consultation services, effective October 1, 2004. This program is estimated to cost approximately $3 million per year, with the state match paid from state general revenue.

In addition, the Arkansas State Employees and Public School teachers' plan has added tobacco prevention and cessation services as a covered benefit for its 128,000 enrollees, funded by the Employee Benefits Division. This package includes expansion of coverage for preventive care services to all health plans (previously covered only in the managed care option), elimination of employee cost sharing for these services, addition of tobacco cessation program and pharmacological support to all plan benefit packages, and establishment of a premium reduction for healthy lifestyle based on tobacco use and other health-related behaviors. At the time of this report, we did not have information on the estimated cost of this package or what portion of total costs are related to the tobacco provisions.

As the state considers alternatives for increasing financial resources for tobacco programming, it should track existing and planned funding for each of the nine program components for which the CDC recommends minimum funding levels. These components are community programs to reduce tobacco use, chronic disease programs, school programs, enforcement, statewide programs, counter-marketing, cessation programs, surveillance and Evaluation, administration and management. As shown in Table 3.10 (in Chapter 3), current funding levels fall short of the CDC recommendations for five of the program components, and ideally, any new external funding should be applied to help strengthen the financial support across the nine components.

Medicaid Expansion

The underspending of the Tobacco Settlement funds for this program has two consequences for the state. The first is the absence of insurance coverage for people in poverty who were intended to be reached by these expanded benefits, with its concomitant effects on health status and outcomes. The second is loss of federal funds that the state obtains through the matching of three dollars of federal Medicaid funding for every state dollar spent on health care services. Some of the funds not spent on the expansion programs indeed are being used through the Rainy Day Fund to cover Medicaid shortfalls. However, the intent of the Initiated Act was to use the funds to provide insurance coverage for individuals not otherwise eligible for Medicaid. We offer some options here to better fulfill that intent.

The first use of the unspent Medicaid expansion funding that we suggest is to invest in building enrollment in the three existing expansion programs to expand use of these benefits by individuals who need the services and cannot otherwise afford them. As we learned in our evaluation, many eligible individuals are not aware of the expanded benefits, and many of those who are aware of the benefits are not using services fully because they do not know which services are covered. Expansion of enrollment and service use also would bring with it the federal matching funding.

> ***Recommendation:*** A portion of the appropriation for the Medicaid expansion program should be budgeted and used to support community outreach on the expanded benefits and education of enrollees on the health care benefits available to them.

The unspent Medicaid expansion funding is an available resource that also could be used to expand services for health behaviors that are preventable factors for the health priorities of heart disease and cancer. Although we believe that the first goal should be to increase enrollments in the existing Medicaid expansion programs, any remaining funds could be put to good use by expanding coverage preventive services for Medicaid beneficiaries.

> ***Recommendation:*** Consider applying some of the unspent funding for the Medicaid expansions to establish another Medicaid expansion that would provide coverage for evidence-based, preventive health and treatment services for obesity and inactivity.

Another alternative for use of the unspent Medicaid expansion funds would be to enhance Medicaid payments for physicians serving underserved areas, to encourage them to participate in Medicaid, and in turn, which could improve access to care for low income residents in those areas. These additional payments also might contribute to a package of incentives for recruiting physicians to increase physician supply in rural areas. We are more tentative in offering this

suggestion, however, because experience with the Medicare program has shown that this incentive is difficult to implement effectively.

> ***Recommendation:*** Evaluate the feasibility and value of establishing a 20 percent Medicaid bonus payment for physicians providing primary care services to residents of rural health professional shortage areas in the state, again using some of the unspent Medicaid expansion funding.

CONTINUED EVALUATION ACTIVITIES

As the Tobacco Settlement programs move forward in the services and activities being funded, they will continue to grow to the extent they are able to leverage this funding to attract additional support from other sources. The growth and maturity of the programs should lead to increased impacts on relevant outcomes, and the programs increasingly should be held accountable for these outcomes over time.

Given these programming trends, the evaluation of the Tobacco Settlement programs should shift toward a focus on program outcomes, while maintaining monitoring of program progress. Routine monitoring should proceed to ensure that new issues are identified and addressed as they arise. The monitoring will consist of continued data collection on the process indicators established in the first evaluation cycle, as well as continued gathering of information on program activities in the quarterly progress reports. In particular, the progress of the programs in addressing the issues and recommendations presented in this report will be tracked in the evaluation.

The outcome evaluation will continue to assess trends for the measures reported in Chapters 10 and 11 of this report, as data for additional years become available to enable us to test effects on trends. We suggest analysis of additional data including Medicaid claims and death certificates, as well as comparisons of Arkansas's trends in all measures to those in surrounding states and in nation. We encourage the ADH to increase the BRFSS sample size, so that more precise county and regional estimates can be created to better assess local trends in smoking behaviors. Similarly, we will work with individual programs to identify other potential data sources and measures that can provide useful information on outcomes for their activities. Institutionalizing recent improvements in data collection methods and increasing resources for measurement and analysis will assure that decision makers can determine which goals are being successfully met and which require additional attention.

DISCUSSION

The Arkansas General Assembly and Tobacco Settlement Commission have much to be proud of in the investment made in the seven programs supported by the Tobacco Settlement Funds. These programs in general have made substantial progress in expanding and strengthening the infrastructure to support the health status and health care needs of Arkansas residents. Although it still is too early to assess the impacts of the funded programs on these outcomes, we believe their prospects are good for achieving observable impacts over the next few years, if they are given the time and support they need to learn and adjust to achieve full program effectiveness. It is important to remember that most of these programs started “from scratch” when they received the Tobacco Settlement funding; it takes time for new programs to reach maturity and achieve lasting effects on health outcomes.

Arkansas has been unique among the states in being responsive to the basic intent of the Master Tobacco Settlement by investing its funds in health-related programs with a focus on reducing smoking rates. We encourage the state policy makers to reaffirm this original commitment in the Initiated Act to dedicate the Tobacco Settlement funds to support health-related programming. To do justice to the health-related services, education, and research these programs are now delivering, they must be given the continued support and time they need to fulfill their mission of helping Arkansas to significantly improve the health of its residents. In addition, take the actions needed to ensure that issues identified in this evaluation are addressed to reinforce the effectiveness of Arkansas' investment in the health of its residents.

Appendix A.
RAND Evaluation of the Arkansas Tobacco Settlement Program
Evaluation Methods

The evaluation approach we have designed responds to the intent of the Tobacco Settlement Commission to perform a longitudinal evaluation of the development and ongoing operation of its funding program. We employ an iterative evaluation process through which information is tracked on both the program implementation processes and effects on identified outcomes. This information can be used to inform future funding decisions by the Commission as well as decisions by the funded programs on their goals and operations. Presented below, is a description of each of the three major evaluation components: policy analysis, process evaluation, and outcome evaluation.

POLICY EVALUATION

The policy evaluation was performed to achieve two purposes. First, we documented the policy issues confronting the state of Arkansas, which was the context within which the CHART process and the Initiated Act were developed, and we identified the priorities and rationale for the funding decisions implemented in the Initiated Act. Second, the results of the program evaluation were synthesized and interpreted in the context of the state's policy issues to provide the Commission and other policy makers with additional information to assist future decisions on Tobacco Settlement policy and funding priorities.

Sources of information for the policy evaluation included existing documents produced by various state agencies, federal agencies, or relevant policy research organizations, as well as interviews with stakeholders involved in or affected by the use of the tobacco settlement funds or relevant programs. We conducted individual and group interviews with key stakeholders, through which we learned and documented their perspectives regarding priorities and activities being undertaken by the Tobacco Settlement programs.

PROCESS EVALUATION

Process evaluation refers to a set of evaluation activities that document the development, implementation, and ongoing activities of a program (Devine 1999) and their level of quality. We performed a process evaluation for each of the programs funded by the Tobacco Settlement Commission.

Process evaluations provide a rich context in which to interpret outcome results – a context that ties these results to the levers that produce them. Without a process evaluation, outcome evaluators may find themselves trying to explain outcomes as a function of services that may not have been delivered, or that are different from what the program intended to deliver (Scheirer 1994). Process evaluation also has a formative function, (i.e., providing insights and understandings that can be continuously fed back to those involved in setting up the delivery of services) (Browne and Wildavsky 1987). When performed as a continuous, collaborative, and iterative activity, that draws upon multiple sources of data on an ongoing basis over the lifetime of the study, a process evaluation can grow and change as a program matures (Dehar, Casswell, and Duignan 1993; Shadish et al. 1991). Finally, a well-designed process evaluation can provide

critical findings on facilitators and barriers to program implementation—findings that will be invaluable for future replication of an innovative program model.

The framework used to perform the process evaluation for each of the funded programs was the FORmative Evaluation, Consultation, and Systems Technique (FORECAST) model. In this process evaluation system, program staff and evaluators collaboratively decide what needs to be monitored and how (Goodman and Wandersman, 1994). It is especially well suited for this evaluation because the funded programs are pursuing very distinct program activities and interventions.

As the first step in the FORECAST process, we worked with the programs to develop logic models depicting what the program has identified as the underlying issues and how it will operate to successfully address those issues. In this case, the definition of issues was guided by the performance mandate that the Initiated Act defined for each program. The Action Plans built upon work already begun by the programs, as well as the priorities defined for each program in the initiation, short-term and long-term performance indicators defined in the Initiated Act.

Documenting Program Development and Progress

To monitor the development and progress of the funded programs on a regular basis, we are using a combination of annual site visits and quarterly conference calls. At the site visits, we are able to observe the programs in operation at their facilities, engage in dialogue with program leaders and participants, and conduct interviews with other stakeholders outside of the program management. The site visit information represented annual "data points" in a longitudinal collection of data on a program's status over time. Through the quarterly conference calls, we collect data for intervening points in time between the site visits, through which we document trends in program development, along with changes in the issues the programs face over time and how they manage those issues.

Annual Site Visits. The first annual site visits were conducted in March and April 2003 and the second site visits were conducted in April 2004. The site visit for each program consisted of two parts—meetings with the program management and staff to gather information on the program scope and operation, and interviews with other stakeholders who are users of the program or community leaders, to learn their perspectives on the program. Each site visit was planned in advance in consultation with the program lead. The evaluation team identified the list of stakeholders we wanted to interview, and the program leads assisted in scheduling the interviews.

At the start of a program site visit, we first met with the program leads to get an overview of the program goals and operation, current issues being addressed, and plans for the future. Then we met with program staff responsible for each part of a program, and we conducted interviews with external stakeholders. Interview protocols used to guide the interviews are provided in Attachments A.1 (2003 site visits) and A.2 (2004 site visits). After each site visit, the RAND site visit team prepared a report summarizing what we learned from the discussions, interviews, and associated documents.

Quarterly Conference Calls. Regular contact with the programs between site visits is maintained through quarterly telephone conferences. During these calls, the programs inform RAND staff of significant events that have taken place over the past three months, including significant achievements and successes that should be given special notice as well as ongoing

barriers and challenges they face. At the initial site visits, we identified sets of key issues for each program that we followed. At each quarterly call, we document the status of the program in managing these issues, and we identify other new issues that emerged. The information gathered in each quarterly call is documented in a quarterly program (see Attachment A.3), and collectively, these reports yielded a description of the evolution of each program over time.

The quarterly conference calls were conducted with each program in July, October, and January of each evaluation cycle. The fourth contact in the cycle was the annual site visit in March or April of each year, at which the program's full year of activities are assessed.

Process Indicators

A set of process indicators was developed for each of the funded programs. The purpose of the indicators is to provide information for the General Assembly, Tobacco Settlement Commission, and the funded programs about their progress in achieving the aims established in the Initiated Act. The process indicators consist of:

- *longitudinal measures* that can be measured on a periodic basis to track program trends over time (e.g., percentage of residents in a county who participated in an educational program), and
- *single event measures* that document the achievement of key program achievements (e.g., completing a needs assessment).

The process indicators were generated at the start of the evaluation through an interactive process with the funded programs. As RAND developed the indicators, we consulted with the program leads to ensure that the programs (1) were kept fully aware of the contents of the evaluation, (2) could assess the validity of the indicators from the program perspective, and (3) had an opportunity to identify key process measures they felt had been overlooked.

The indicators address policy-level aspects of the programs that relate directly to the program mandates specified in the Initiated Act. Differing numbers of indicators were developed for each program, depending on the complexity of the program and the level of detail the program preferred for tracking its progress. RAND selected the process indicators using the following criteria:

1. Closely related to the most important program outcomes
2. Early indicators of performance
3. Easy to measure
4. Creates incentives that are aligned with the goals of the program
5. Diverse in order to cover the range of markers
6. Either longitudinal to show change from year to year, or a key program endpoint.

The programs' performance on the process indicators has been monitored on a semi-annual basis, for the two six-month periods of January through June and July through December of each year. We gathered the data retrospectively for the time from initial program funding to the start of the evaluation, so programming trends can be tracked from inception. The data collection has continued prospectively as part of the longitudinal evaluation. Trends in the indicators have been reported to the Tobacco Settlement Commission. This information is reported for each program as part of the process evaluation results in Chapters 3 through 9.

Analysis of Program Spending Trends

An important part of the process evaluation is documenting and assessing trends in spending of the Tobacco Settlement funds by the programs. The pace at which spending grew in the early months of the funding reflect the speed at which a program was able to initiate its new programming and bring it to full operational status. In addition, the extent to which the programs spent the available funds on the mandated services or other programming is a measure of their success in applying these valuable resources to addressing the health-related needs of Arkansans.

In early 2004, we requested from all the funded programs monthly financial data on their spending of the Tobacco Settlement funds they had received. Using the information provided, we prepared schedules of appropriations, funds received, and actual expenditures for each program. Monthly patterns of spending by line items were analyzed to identify any variances from trends, with particular attention to the line items with the largest expenditures. Wherever possible, we tracked spending by key program components so that trends could be followed for the mix of services provided by each program. The results of the spending analysis are reported in Chapters 3 through 9 as part of the process evaluation results for each program.

OUTCOME EVALUATION

For an effective outcome evaluation, we examine program results relative to the over-arching goals to be achieved through application of the tobacco settlement money. For example, we examine whether the expenditures had a positive impact on the health of Arkansans. Such an analysis requires knowledge of counterfactuals: What would the health of Arkansans have been in the absence of the funded programs? What would the outcomes have been if the money had been spent on other programs instead?

The scope of the outcome evaluation was defined by the outcome measures we selected for analysis. The first step in this process was to review the goals of the tobacco settlement expenditures. The measures selected had to be capable of providing information on how well the programs are meeting those goals. Then we worked with the program leads in identifying outcomes that would be expected to change as a result of the program interventions they were implementing. We used this information to define candidate measures, and we then assessed the availability of data needed to analyze each measure.

Two sets of outcome measures were defined for the evaluation: overall measures that addressed global outcomes for the state as a whole, and program-specific measures that addressed outcomes specific to the types of services provided by each program. All of the overall measures were measures of smoking behaviors and related health outcomes, which address one of the fundamental goals of the Initiated Act—that of reducing use of tobacco products across the state.

To accurately estimate program effects, two values of each outcome measure must be compared: the actual outcome that occurs in the presence of the program and a counterfactual value of the outcome that would have occurred if the program had not been implemented. Many outcome measures would change even without the program due to trends in demographics and economic conditions. Therefore, simple baseline outcome measures often do not provide adequate counterfactuals by which to measure program impact.

It is well documented that program changes require time to be translated into health outcomes for a given population. Furthermore, localized program activities will affect only the

population exposed to the program. Some of the programs supported by the Tobacco Settlement funds are state-level programs. However, in many cases the program interventions are not applied equally across the entire state but are focused on specific geographic areas or two a designation population subgroup. Therefore, state and national-level data from such instruments as the BRFSS and YRBSS are not specific enough to detect and assess program effects for some of the funded programs. Other data sources had to be sought to address these outcomes. The following data sources were utilized in the outcome evaluation:

- Behavioral Risk Factor and Surveillance Survey
- Youth Risk Behavior Surveillance Survey
- Inpatient discharge data for Arkansas hospitals
- Data from the Synar inspection program
- Birth certificates for births in Arkansas

To guide our analysis of overall smoking outcomes for the state, we define a continuum of outcomes that should occur over time in response to educational and treatment interventions to reduce smoking rates. The first outcome we would expect to observe is a decline in self-reported smoking, which then should be followed by a decline in sales of tobacco products. As smoking rates decrease, we then should see reductions in short-term health effects of smoking, such as low birth weight infants or hospital stays due to asthma exacerbations. Finally, effects on longer-term health status will occur later, for example, in reduced incidence of cancers or heart disease.

Standard trend analysis and time series analysis model techniques are used to estimate trends in outcomes during a baseline period before the Tobacco Settlement funds were received. In our models, we then estimate any changes from those trends and assess the extent to which any changes found can be attributed to the effects of one or more of the funded programs. The results of the outcome analysis are presented in Chapter 10 of this report.

Attachment A.1.

EVALUATION INTERVIEW PROTOCOL
2003 Site Visits to Funded Programs

Interviewee: _____ Date: _____

Program: _____

Interviewer: _____ Notetaker: _____

INTRODUCTORY INFORMATION

Informed consent given? ____ Yes ____ No

Background of the interviewee

General comments by interviewee

OVERALL PROGRAM CONSIDERATIONS

The CHART and Funding Process

1A. If involved in CHART, how were you involved and what are your observations about how the CHART process worked?

- Through what process did the participating parties achieve consensus on the funding package? How did participants react to this process?
- How effective do you think the process was for achieving a fair funding solution?
- What were the most important issues that surfaced during the funding negotiations, and how were they addressed? Which, if any, of these issues are still issues today?
- Which organizations played the most significant roles or had the greatest influence on the negotiations and achieving consensus?
- Which organizations were involved initially but dropped out during the negotiations? What are their status and views today about the funding program?
- At what points in the process did the CHART have direct interactions with individual elected state officials, the Senate, or the House? How did these interactions contribute to the funding process?

1.B If NOT involved in CHART, what observations do you have about the process CHART used to develop its proposed funding package or about the mix of programs and funding established?

- What role is the CHART playing today to continue to support the Tobacco Settlement funding and accountability under that program?

2.1 Where is CHART helping most to support the funding program? In which ways might it improve on or change what it is doing?

2.2 Which individual organizations are most actively involved in monitoring the Tobacco Settlement program and the work of the funded programs? How have those organizations affected the activities of the program(s) in which you are involved?

- Which aspects of the Initiated Act provisions do you think are the strongest or the weakest?

3.1 Are there issues or problems with the Act that need to be resolved? What are they?

3.2 In your opinion, how vulnerable are the funded programs to potential loss of funding through new legislation that would redirect use of the Tobacco Settlement funds?

3.3 What factors are most likely to contribute to such risk?

3.4 Has the degree of risk changed since the funding was first established?

The Health of Arkansans and the Funded Programs

- In your opinion, what are the important reasons for the poor health status of Arkansas residents, compared to other states?
- What are the most important actions needed to help improve health status?
- How well can the programs funded by the Tobacco Settlement contribute to this process of health status improvement, including reduction of disparities among demographic groups?

6.1 How well positioned are the funded programs to address disparities among racial and demographic groups in health status and access to health care?

The Tobacco Settlement Commission and Program

- What is your understanding of the role and responsibilities of the Tobacco Settlement Commission
- How well has it progressed in carrying out its role and responsibilities?

8.1 In which areas, if any, does it need to improve, change, or clarify its policies or activities?

8.2 In what ways has the Commission provided support or assistance to the program in which you are involved? How helpful was that assistance? Did your program request assistance at any time that the Commission did not provide

8.3 How has the Commission progressed in carrying out its oversight role to monitor activities of the funded programs? Has your program been involved or affected by this monitoring? [*IF YES, ASK FOR DETAILS AND OPINIONS*.]

- If you attended or participated in any meetings of the Commission, what were your reactions or opinions regarding the contents of the agenda, discussions, or other aspects of the meeting(s)?
- In which ways, either positive or negative, might state legislative activities or issues, or other external factors, affect the ability of the Commission to carry out its work?

10.1 How might the funded programs be affected by these forces?

10.2 What other external factors, such as new federal legislation or changes in the economy, are most likely to influence the work of the Commission or the funded programs?

- What are the greatest strengths and challenges of the Tobacco Settlement program?

The RAND Evaluation

- What are the most important policy questions or issues that the RAND evaluation should address?

  12.1 What information or assistance would you like to obtain from the evaluation?

  12.2 What issues regarding process or outcome measures should the evaluation address?

- If your program has its own evaluation being performed, how do you view the role of the RAND evaluation?

  13.1 What issues concern you? How might the RAND evaluation provide added value to your own evaluation?

  13.2 The RAND evaluation has both normative and formative components. How much formative evaluation activity do you think RAND should undertake with your program?

THE FUNDED PROGRAM

Interviewee's role(s) with the program

Description of the program

Background and History

Program mission and goals

Governance Structure and Process

- What are the structure and functions of the governing body of the program?

  14.1 Is there a separate board of directors (trustees) for the TS-funded program in which you are involved? If not, what type of commission or advisory board oversees the program's work?

  14.2 Does the board have an active committee structure? What committees are there and how actively are they working?

- How do the board and management of the program work together to oversee program operation and monitor performance?

- How actively involved is the board in determining the strategic direction for the program?

  16.1 Has it established strategic goals? How is it monitoring progress on those goals?

  16.2 What are the most important issues that have been addressed by the board since the funded program began operation? Which of these are still issues? What new issues are being anticipated by the board?

Implementation Process

- What key activities have been undertaken by the program?
- What have been the greatest successes and barriers so far in implementing the funded program?

  18.1 how have they affected progress in carrying out the work plan?
- To what extent is the program using contractors to carry out the program activities?

  19.1 How well is this approach working?

  19.2 What problems or issues have you observed regarding contractors' work?
- Is the scope of services or activities of the program in accordance with the program scope specified in the Initiated Act?
- Does the program have sufficient resources to achieve and maintain the program scope defined in the Initiated Act?

  20.1 If not, was the original funding poorly matched to the program scope, or has something changed to create this problem since the Act was adopted?

Service Delivery and Operations

- How well is the program reaching the population(s) it is intended to serve?

  21.1 How well do you think the program is being received by these populations?

  21.2 Do you have market research or survey results that provide direct information on users' satisfaction and attitudes?
- Is the program on schedule for achieving its service delivery goals? What factors do you believe are influencing its performance?
- What do you think are the most important service delivery issues or challenges for the program today? Will these issues continue to be important in the future?
- What would you say are the greatest strengths and weaknesses of the program operationally, e.g., quality staffing, financial management tools, etc?
- Does the program have trouble attracting and retaining qualified staff? If so, what factors are contributing to these challenges, e.g., inadequate labor supply, salary competition?
- Does the program have the information technology needed to operate its activities, such as telecommunications, data processing, and computer network capabilities?

  27.1 To what extent has the Tobacco Settlement funding supported development of this technology?

  27.2 What more is needed?

CLOSING COMMENTS

- What final thoughts do you have regarding the overall Tobacco Settlement program?

- What are the most important items for us to take away from this interview about the overall program? About the funded program in which you participate?

Attachment A.2.

EVALUATION INTERVIEW PROTOCOL
2004 Site Visits to Funded Programs

Interviewee: _____ Date: _____

Program: _____

Interviewer: _____ Notetaker: _____

INTRODUCTORY INFORMATION

Informed consent given? ____ Yes ____ No

Background of the interviewee

General comments by interviewee

OVERALL PROGRAM CONSIDERATIONS

The Health of Arkansans

1. In your opinion, what are the most important actions needed to help improve the health status of Arkansans?

- How well are the programs funded by the Tobacco Settlement contributing to this process of health status improvement, including reduction of disparities among demographic groups?
- What role is the CHART playing today to continue to support the Tobacco Settlement funding and accountability under that program? What else might it do that it is not doing now?

The Tobacco Settlement Commission and Program

(Include in interviews for all program leads and other key staff interacting with Commission)

- How well has the Tobacco Settlement Commission progressed in carrying out its role and responsibilities?
  - In what ways has the Commission provided support or assistance to the program in which you are involved? How helpful was that assistance? Did your program request assistance at any time that the Commission did not provide
  - How has the Commission progressed in carrying out its oversight role to monitor activities of the funded programs? Has your program been involved or affected by this monitoring? [*IF YES, ASK FOR DETAILS AND OPINIONS*.]

4.3 In which areas, if any, does the Commission need to improve, change, or clarify its policies or activities?

- If you attended or participated in any meetings of the Commission, what were your reactions or opinions regarding the contents of the agenda, discussions, or other aspects of the meeting(s)?
- In which ways, either positive or negative, might state legislative activities or issues, or other external factors, affect the ability of the Commission to carry out its work?
- What are the greatest strengths and challenges of the Tobacco Settlement program?

The RAND Evaluation

(Include in interviews for all program leads and other key staff interacting with Commission)

- What feedback do you have for RAND on the evaluation process thus far?
- How reasonable has the workload been for your program to participate in the evaluation and provide the data requested by RAND?
- Do you feel that the indicators and measures developed for your program's process and outcomes appropriately reflect the program's activities and impacts?

THE FUNDED PROGRAM

Interviewee's role(s) with the program:

Governance Structure and Process

- How are the board and management of the program working together to oversee program operation and monitor performance?
- How actively involved is the board in determining the strategic direction for the program and monitoring progress in achieving those goals?

Implementation Process

- What have been the greatest successes and barriers so far in implementing the funded program?

  Successes:

  Barriers or challenges:

- Does the program have sufficient resources to achieve and maintain the program scope defined in the Initiated Act?
- To what extent has the program been able to leverage the Tobacco Settlement funding to develop additional funding for program growth and development?

Service Delivery and Operations

- How well is the program reaching the population(s) it is intended to serve? What information have you gathered on the perceptions of users about the program?
- What factors do you believe are influencing the program's performance and ability to achieve its service delivery goals?

- What do you think are the most important service delivery issues or challenges for the program today? Will these issues continue to be important in the future?
- What would you say are the greatest strengths and weaknesses of the program operationally, e.g., quality staffing, financial management tools, etc?
- Does the program have trouble attracting and retaining qualified staff? If so, what factors are contributing to these challenges, e.g., inadequate labor supply, salary competition?
- Does the program have the information technology needed to operate its activities, such as telecommunications, data processing, and computer network capabilities?

ISSUES SPECIFIC TO THE PROGRAM

[TO BE COMPLETED BY RAND LEAD STAFF FOR THE PROGRAM]

CLOSING COMMENTS

- What final thoughts do you have regarding the overall Tobacco Settlement program?
- What are the most important items for us to take away from this interview about the overall program? About the funded program in which you participate?

Attachment A.3.

Quarterly Report on Program Progress and Issues
RAND Arkansas Tobacco Settlement Evaluation

Program Name: _____

Quarter reported: 1 2 3 4 Year: _____

(circle one)

Program person(s) reporting: _____

RAND staff recording report: _____

Information Initiated by the Program

1. Describe significant events (achievements, successes, challenges) that have taken place over the past 3 months and how they are dealing with them

2. Identify any measure/marker or indicator that based on the past 3 months that you think will be difficult to meet, because you either will not have the data or will not be able to meet criteria established in the measures/markers). (This should prompt a discussion of whether there is a need to revise the measure/marker or indicator.)

Information Tracked by RAND

3. Verbally go through the relevant measures/markers and indicators and inquire about progress. Discuss any significant problems and how they are dealing with them

Indicator/Marker	Status and Issues Reported

4. Inquire about updates on significant issues that have been identified through the recent interviews

Issue Being Tracked	Status Update

Appendix B.
DOH Formation and Planning

Act text	Subsection within 19-12-113	When completed (documentation)
Create minority account within 30 days15% of PCP account fund; Led by Dir. of ADH in consultation with Chan. at UAPB, Pres. AMDPA, & League of United Latin American Citizens	(b)	In FY 02: 721,656; in FY 03: 3,592,975.29 (budget printout)
ADH chooses components and components shall include	(c)	
a. Community prevention programs that reduce youth tobacco use		
b. Local school education & prevention programs in K-12 that includes school nurses when appropriate		
c. Enforcement of youth tobacco control laws d. State-wide programs with youth involvement to increase local coalition activities		
e. Tobacco related disease prevention programs		
f. Public awareness campaign		
g. Minority initiative		
Form the Tobacco Prevention and Cessation Advisory Committee which will advise the AR Board of Health to carry out provisions in the Act	(d)	Done on 10/25/01 (Meeting minutes of the AR Board of Health in which this occurred)
Make recommendations in consultation with the Dept of Health on the strategic plan for the prevention, cessation, and awareness elements of the of the PCP	(d)	Done on 9/12/02 (Meeting minutes of the AR Board of Health in which this occurred)
Make recommendation to the board on strategic vision and guiding principles of the PCP	(d)	Done on 9/12/02 (Meeting minutes of the AR Board of Health in which this occurred)
Advisory Committee Make up	(e1)	Roster was formed according to the Act. (Advisory Committee roster)

Terms for Advisory Committee members	(e2)	Roster was formed according to the Act (Start and end dates for Advisory Committee members; meeting minutes)
Members do not receive compensation, but can get expenses reimburse	(e3, e4, e5)	Members were notified on 12/13/01 and received written materials (Meeting minutes in which this policy is passed)
Elect a chair within 90 days	(e6)	Done on 12/13/01, initial chair resigned and 2nd was elected on 3/14/01 (AC meeting minutes in which this occurred)
Adopt by-laws	(e6)	Done on 6/13/02 (AC meeting minutes in which this occurred; copy of by-laws)
Meet at least quarterly or by special request of the Board of Health or by Advisory Committee by-laws	(e7)	Group meets quarterly (AC meeting minutes)
Advisory Committee recommendations will be reviewed by the Board of Health	(f)	Done on 10/25/01, 10/24/02 (AR Board of Health meeting minutes in which this occurred)
Board of health will implement rules necessary to implement the PCP in consultation with the AR Dept of Health	(f)	Not Applicable
AR Dept of Health will establish performance based accountability procedures and requirements	(g)	In addition to participating in the Gallup evaluation and in BRFSS, developed and track the following indicators: 1. % of counties w/ tobacco projects =96.0%* 2. % of all tobacco retailers inspected=20.7%* 3. %failed attempts of minors to buy=88.5%* 4. % Admin costs of total =3%*

		5. % adults smoking=26.3% 6. % high school students not smoking in 30 days=65%*
Start implementation within 6 months of funding	Section 19-12-118, 1A	Was started on time (hired the Director on 10/28/01)

Appendix C.
Arkansas Department of Health
Monitoring the Implementation of the
CDC's Guidelines for School Health Programs to Prevent Tobacco Use and Addiction[a]

NAME OF NURSE: _____ DATE:_____ EDUCATIONAL CO-OP:_____

1. Do schools have a comprehensive policy on tobacco use, and is it implemented and enforced as written?

Place a ✓ in the row next to the policy characteristic that applies to your Co-op	Policy characteristics	Narrative
	An explanation of the rationale for preventing tobacco use (i.e., tobacco is the leading cause of death, disease, and disability)	
	Prohibitions against tobacco use by students, all school staff, parents, and visitors on school property, in school vehicles, and at school-sponsored functions away from school property	
	Prohibitions against tobacco advertising in school buildings, at school functions, and in school publications	
	A requirement that all students receive instruction on avoiding tobacco use	
	Provisions for students and all school staff to have access to programs to help them quit using tobacco	
	Procedures for communicating the policy to students, all school staff, parents or families, visitors, and the community	
	Provisions for enforcing the policy	
	To ensure broad support for school policies	

[a]Centers for Disease Control and Prevention. Guidelines for school health programs to prevent tobacco use and addiction. MMWR 1994;43(No. RR-2):[inclusive page numbers].

2. Does the tobacco education program foster the necessary knowledge, attitudes, and skills to prevent tobacco use?

Place a ✓ in the row next to the following characteristics that apply to your Co-op's programming	PROGRAM CHARACTERISTICS	Narrative
	Immediate and long-term undesirable physiologic, cosmetic, and social consequences of tobacco use. Programs should help students understand that tobacco use can result in decreased stamina, stained teeth, foul-smelling breath and clothes, exacerbation of asthma, and ostracism by nonsmoking peers.	
	Social norms regarding tobacco use. Programs should use a variety of educational techniques to decrease the social acceptability of tobacco use, highlight existing anti-tobacco norms, and help students understand that most adolescents do not smoke.	
	Reasons that adolescents say they smoke. Programs should help students understand that some adolescents smoke because they believe it will help them be accepted by peers, appear mature, or cope with stress. Programs should help students develop other more positive means to attain such goals.	
	Social influences that promote tobacco use. Programs should help students develop skills in recognizing and refuting tobacco-promotion messages from the media, adults, and peers.	
	Behavioral skills for resisting social influences that promote tobacco use. Programs should help students develop refusal skills through direct instruction, modeling, rehearsal, and reinforcement, and should coach them to help others develop these skills.	
	General personal and social skills. Programs should help students develop necessary assertiveness, communication, goal setting, and problem-solving skills that may enable them to avoid both tobacco use and other health risk behaviors.	

3. Is education to prevent tobacco use provided, as planned, in kindergarten through 12th grade, with special emphasis during junior high or middle school?

Place a ✓ in the row for the grades in which tobacco programming is in place in your Co-op	Grade	Narrative
	Kindergarten	
	1st	
	2nd	
	3rd	
	4th	
	5th	
	6th	
	7th	
	8th	
	9th	
	10th	
	11th	
	12th	

4. Is in-service training provided, as planned, for educators responsible for implementing tobacco-use prevention?

Place a ✓ in row if the following training activities occurred in your Co-op	Training activities	Narrative
	Review of program content	
	Skilled trainers model program activities	

	Teachers have opportunity to practice implementing program activities	

5. Are parents or families, teachers, students, school health personnel, school administrators, and appropriate community representatives involved in planning, implementing, and assessing programs and policies to prevent tobacco use? Describe your efforts to involve these groups in planning, implementing, and assessing programs and policies to prevent tobacco use.

6. Does the tobacco-use prevention program encourage and support cessation efforts by students and all school staff who use tobacco? Describe the efforts to identify cessation programs in the community and promote their awareness and make referrals to cessation programs.

Appendix D.
Arkansas Department of Health
Public Health Nurses Technical Assistance Monitoring Form

NAME OF NURSE: _____ DATE:_____ EDUCATIONAL CO-OP:_____

Mode of TA:		Type of TA	
1. Written	4. In-person On site	1. Developing Supportive Organizational Arrangements	4. Monitoring & Evaluation
2. Telephone	5. In person Off-site	2. Training	5. External Communication
3. Electronic (email)		3.: Providing Consultation and Reinforcement	6. Dissemination

Amount of TA

1	2	3	4	5	6	7
Not at all	Very little	Some	Moderate amount	A good deal of time	A lot of time	Most of my time

Recommendations from CDC for School Health Programs	Strategies	Mode, TA Type, and Narrative
❶ Develop and enforce a school policy on tobacco use. Amount of TA:____	Promote Tobacco Free Schools	Mode:___ Type____ Narrative:
❷ Provide instruction about the short- and long-term negative physiologic and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills. Amount of TA:____	Promote Youth Advocacy and Empowerment	Mode:___ Type____ Narrative:
❸ Decrease Pro-tobacco use Influences Amount of TA:____		Mode:___ Type____ Narrative:

❹ Provide program-specific training for teachers. Amount of TA:_____	Provide program-specific training for teachers.	Mode:___ Type____ Narrative:
❺ Involve parents or families in support of school-based programs to prevent tobacco use. Amount of TA:_____	Promote Family Parent and Positive Role Model Involvement	Mode:___ Type____ Narrative:
❻ Support cessation efforts among students and all school staff who use tobacco. Amount of TA:_____	Promote Youth Cessation Programs	Mode:___ Type____ Narrative:
❼ Assess the tobacco-use prevention program at regular intervals. Amount of TA:_____	Assess the tobacco-use prevention program at regular intervals.	Mode:___ Type____ Narrative:
A. Promote Youth Awareness for non-use and Decrease Social Acceptability of Tobacco		
B. What barriers did you experience in implementing strategies to promote quitting among youth, and how were they addressed?		
C. What types of technical assistance or training do you need from TPEP to help you achieve your long-term project goals?		

TYPES OF TA

ACTIVITY	DEFINITION	DESCRIPTORS	EXAMPLES
1: Developing Supportive Organizational Arrangements	Actions taken to develop policies, plan, manage staff, funds, restructure roles and provide space, materials, and resources to establish and maintain use of the innovation.	Covers logistical and scheduling activities Includes planning and decision-making about the change process, schedules and people.	Hiring new staff. Seeking/receiving funds. Providing innovation-related equipment
2: Training	Actions taken to develop positive attitudes, knowledge and skills in relation to innovation use, through formal, structured and/or pre-planned activities.	Covers formal organized training activities. May be provided for users, administrators or others. Is normally scheduled and announced in advance.	Holding workshops. Modeling/demonstrating use of the innovation. Observing and providing feedback related to a pre-specified task.
3: Providing Consultation and Reinforcement	Actions (often idiosyncratic, problem-specific, targeted at an individual or small group) taken to encourage and to assist individuals in solving problems related to innovation implementation.	Is focused on consulting and coaching users/nonusers. Is typified by one-on-one problem solving and informal sharing of tips.	Holding brief conversations about how it is going. Facilitating a problem-solving group. Providing “comfort and caring” sessions.
4: Monitoring & Evaluation	Actions taken to gather, analyze or report data about the implementation and outcomes of a change effort.	Includes formal and informal assessments. Includes assessment, analysis interpretation and feedback.	Analyzing pre-post learner assessments. Administering end-of-workshop questionnaire. Conferencing with teachers to survey how the new program is going.

ACTIVITY	DEFINITION	DESCRIPTORS	EXAMPLES
5: External Communication	Actions taken to inform and/or gain the support of individuals or groups external to the users.	Describes what is being done with the innovation.	Reporting to the Board of Education. Making presentations at conferences. Developing a public relations campaign.
6: Dissemination	Actions taken to broadcast innovation information and materials to encourage others to adopt the innovation	Recruits others to also adopt the innovation.	Mailing descriptive brochures to potential adopters. Making charge-free demonstration kits available. Training and providing regional innovation representatives.

Appendix E.
Council on Education for Public Health (CEPH) Review

Criterion I: Mission and Goals

The school shall have a clearly formulated and publicly stated mission with supporting goals and objectives.

Evaluation score: Met

Criterion II.A. Accredited Institution

The school shall be an integral part of an accredited institution of higher education and shall have the same level of independence and status accorded to professional schools in that institution.

Evaluation score: Met

Criterion II.B. Organizational Setting

The school shall provide an organizational setting conducive to teaching and learning, research and service. The organizational setting shall facilitate interdisciplinary communication, cooperation and collaboration and shall foster the development of professional public health values, concepts and ethics, as defined by the school.

Evaluation score: Met with commentary

Criterion III. Governance

The school administration and faculty shall have clearly defined rights and responsibilities concerning school governance and academic policies. Where appropriate, students shall have participatory roles in school governance.

Evaluation score: Partially met

Criterion IV. Resources

The school shall have resources adequate to fulfill its stated mission and goals, its instructional, research and service objectives.

Evaluation score: Partially met

Criterion V.A. Professional Degrees and Concentrations

The school shall offer programs reflecting its stated mission and goals, leading to the Master of Public Health (MPH) or equivalent professional masters degree in at least the five areas of knowledge basic to public health. The school may offer other degrees, professional and academic, and other areas of specialization, if consistent with its mission and resources. The areas of knowledge basic to public health include: 1) Biostatistics - collection, storage, retrieval, analysis and interpretation of health data; design and analysis of health-related surveys and experiments; and concepts and practice of statistical data analysis; 2) Epidemiology - distributions and determinants of disease, disabilities and death in human populations; the characteristics and dynamics of human populations; and the natural history of disease and the

biologic basis of health; 3) Environmental health sciences - environmental factors including biological, physical and chemical factors which affect the health of a community; 4) Health services administration - planning, organization, administration, management, evaluation and policy analysis of health programs; and 5) Social and behavioral sciences - concepts and methods of social and behavioral sciences relevant to the identification and the solution of public health problems.

Evaluation score: Met with commentary

Criterion V.B. Core Knowledge, Practice and Culminating Experiences

Each professional degree program identified in V.A., as a minimum, shall assure that each student a) develops an understanding of the areas of knowledge which are basic to public health, b) acquires skills and experience in the application of basic public health concepts and of specialty knowledge to the solution of community health problems, and c) demonstrates integration of knowledge through a culminating experience.

Evaluation score: Met

Criterion V.C. Learning Objectives

For each program and area of specialization within each program identified in Criterion V.A., there shall be clear learning objectives.

Evaluation score: Partially met

Criterion V.D. Assessment of Student Achievement

There shall be procedures for assessing and documenting the extent to which each student has attained these specified learning objectives and determining readiness for a public health practice or research career, as appropriate to the particular degree.

Evaluation score: Partially met

Criterion V.E. Academic Degrees

If the school also offers curricula for academic degrees, then students pursuing them shall have the opportunity and be encouraged to acquire an understanding of public health problems and a generic public health education. These curricula shall cover as much basic public health knowledge as is essential for meeting their stated learning objectives.

Evaluation score: Met

Criterion V.F. Doctoral Degrees

The school shall offer at least one doctoral degree which is relevant to one of the five specified areas of basic public health knowledge.

Evaluation score: Partially met

Criterion V.G. Joint Degrees

If the school offers joint degree programs, the required curriculum for the professional public health degree shall be equivalent to that required for a separate public health degree.

Evaluation score: Met

Criterion V.H. Nontraditional Format

If the school offers degree programs using nontraditional formats or methods, these programs must a) be consistent with the mission of the school and within the school's established area of expertise; b) be guided by clearly articulated student learning outcomes which are rigorously evaluated; c) be subject to the same quality control processes that other degree programs in the school and university are, and d) provide planned and evaluated learning experiences which take into consideration and are responsive to the characteristics and needs of adult learners. If the school offers nontraditional programs, it must provide needed support for these programs, including administrative, travel, communication and student services. The school must have an ongoing program to evaluate the academic effectiveness of the format, to assess teaching and learning methodologies and to systematically use this information to stimulate program improvements.

Evaluation score: Not applicable at this time

Criterion VI. Research

The school shall pursue an active research program, consistent with its mission, through which its faculty and students contribute to the knowledge base of the public health disciplines, including research directed at improving the practice of public health.

Evaluation score: Met

Criterion VII. Service

The school shall pursue an active service program, consistent with its stated mission, through which faculty and students contribute to the advancement of public health practice, including continuing education.

Evaluation score: Met

Criterion VIII.A. Faculty Qualifications

The school shall have a clearly defined faculty which, by virtue of its size, multidisciplinary nature, educational preparation, research and teaching competence, and practice experience, is able to fully support the school's mission, goals and objectives.

Evaluation score: Partially met

Criterion VIII.B. Faculty Development

The school shall have well defined policies and procedures to recruit, appoint and promote qualified faculty, to evaluate competence and performance of faculty and to support the professional development and advancement of faculty.

Evaluation score: Met

Criterion VIII.C. Faculty Diversity

The school shall recruit, retain and promote a diverse faculty, and shall offer equitable opportunities to qualified individuals regardless of age, sex, race, disability, religion or national origin.

Evaluation score: Partially met

Criterion IX.A. Student Recruitment and Admission

The school shall have student recruitment and admissions policies and procedures designed to locate and select qualified individuals capable of taking advantage of the school's various learning activities which will enable each of them to develop competence for a career in public health.

Evaluation score: Met with commentary

Criterion IX.B. Student Diversity

Stated application, admission, and degree-granting requirements and regulations shall be applied equitably to individual applicants and students regardless of age, sex, race, disability, religion or national origin.

Evaluation score: Met

Criterion IX.C. Advising and Career Counseling

There shall be available a clearly explained and accessible academic advising system for students, as well as readily available career and placement advice.

Evaluation score: Met with commentary

Criterion IX.D. Student Roles in Governance

Students shall, where appropriate, have participatory roles in conduct of school and program evaluation procedures, policy-setting and decision-making.

Evaluation score: Met with commentary

Criterion X.A. Ongoing Evaluation

The school shall have an explicit process for evaluating and monitoring its overall efforts against its mission, goals and objectives; for assessing the school's effectiveness in serving its various constituencies; and for planning to achieve its mission in the future.

Evaluation Score: Met with commentary

Criterion X.B. Self-Study Process

For purposes of seeking accreditation by CEPH, the school shall conduct an analytical self-evaluation and prepare a self-study document that responds to all criteria in this manual.

Evaluation score: Met

Appendix F.
Measures & Markers Report: Start-December 31, 2003
College of Public Health

NOTE: these include only those measures and markers NOT discussed in the body of the report.

FORMATION

General Issues

- **Classes start within 12 months of funding**

  Classes started within 12 months in Spring 01, 6 months after funding, and have continued ever since.

- **Define mission**

  A clear, concise mission statement was adopted in May 2001.

- **Assure proper governance: Policies for COPH's administrative, governance, committee structure and processes in:**

a. General school policy development

The COPH adopted a set of general governance principles on 7/27/01, and then revised these principles on 7/3/03. This latest document describes several governing committees including Dean's Executive Committee; Joint Oversight Council; Committee on Academic Affairs; Research Committee; Faculty Appointment, Promotion, and Tenure Committee; Continuing Education Committee; Community-Based Public Health Committee; Minority Recruitment and Retention Committee; Student Admissions Committee; Student Council; Honor Council; and Appeals Committee. Also Educational Leave, Student with Disability, and Appointment, Promotion, and Tenure policies have been specified.

b. Planning

COPH has undertaken extensive planning as documented by the minutes of various planning committee meetings and retreats.

c. Student recruitment, admission, and award of degree

Policies have been spelled out in the initial proposal to the Arkansas Department of Higher Education for a MPH and post-Baccalaureate Certificate of Public Health and a plan for minority and female recruitment. Documents have been created to facilitate recruitment such as brochures and pamphlets; the COPH has successfully recruited a diverse student body, which is described more fully in the body of the report.

d. Faculty appointment, promotion and tenure

As stated above, an Appointment, Promotion, and Tenure policy has been specified, and a Faculty Appointment, Promotion, and Tenure Committee has been created.

e. Academic standards and policies

As stated above, a Committee on Academic Affairs and relevant policies have been created; a student handbook of policies and procedures was developed and disseminated in March 2004.

Hiring

- **Hire 25 full-time faculty by the end of 2003**

  The COPH has hired 25 FTE faculty as of December 2003.

Occupy new facilities

- **Occupy Health Department space**

  COPH occupied ADH space from 8/01-9/03

- **Occupy additional space as needed**

  COPH has occupied space in Freeway Medical and the Arvest Building.

- **Occupy new building**

  COPH moved to the new building in September 2003, and held a building dedication on April 7, 2004.

EDUCATION

Use a variety of distance learning mechanisms

- **Ability to take course online or via compressed TV**

Four courses were offered in fall 2002-Spring 2003 in a format that they could be accessed in a remote location either through the Internet—Epidemiology 1 and Environmental & Occupational Health—or through compressed video—Introduction to Public Health and Health Behavior Research. No courses were offered in these formats in Fall 2003 as the COPH was moving into a new building. In addition to electronic formats, the COPH is exploring the use of faculty situated around the state in order to make public health training more accessible.

Create a Continuing Education (CE) structure

- A description of the school's continuing education program, including policies, procedures, and practices that support continuing education.
- The COPH has five mechanisms to support continuing education, which are Public Health Grand Rounds, the Health Policy and Health Promotion Research Conference, Regional Programs for CME/CE, topics of public health importance, and ad-hoc Faculty-presented topics. These mechanisms, some which meet weekly, ensure sufficient opportunities to obtain CME/CE.
- Describe agreements or collaborations, e.g., with ADH, ACHI, that support CE
- The COPH has entered into 29 different agreements with other academic institutions, state agencies, legislative committees, state-wide coalitions, federal organizations, and

community-based and statewide non-profit organizations. In addition they are actively pursuing 27 new collaborations with such organizations.

- Number of organizations that collaborate on CE
- The COPH collaborates with 29 organizations currently and is pursuing 27 more.
- Describe faculty policies that support CE, whether CE affects faculty evaluation
- This is described in the policy referenced above regarding Appointment, Promotion, and Tenure.
- Describe approvals from professional organizations, e.g., CME, Nursing CE credits, ADA, etc. for COPH CE programs
- Three organizations offer CE approval: UAMS Office of CME for physicians; Arkansas State Board of Pharmacy for Pharmacists; and ADH for Nursing, Nutritionists Dieticians, Health Educators, Social Workers, EMT, and CHES/CPHE.

Provide Continuing Education (CE) opportunities VII

- Number of programs
- Number of participants

Semi-Annual Period	Health Policy and Health Promotion Research Conference		Grand Rounds	
	Programs	Attendees	Programs	Attendees
2nd 01	--	--	18	929
1st 02	--	--	22	991
2nd 02	13	201	22	1036
1st 03	24	288	30	1641
2nd 03	15	384	22	1472
Totals to date	52	842	114	6069

Increase number of ADH employees who have received public health training

- **Activities that increase the training of ADH employees**

The COPH offers a 70% tuition discount for the first three years of operation. The COPH now meets the goal of 10% of each class being from ADH, typically having 20-30% of its students from the ADH. The COPH attributes the high enrollment of ADH employees to the 70% discount and believes a drop-off in ADH participation may result if the discount was terminated.

- **10% of all COPH students are from ADH**

% of new students from ADH	Spring 02	Summer 02	Fall 02	Spring 03	Summer 03	Fall 03
	7.0	7.0	33.0	27.0	33.0	25.0

Enroll new qualified students

- **50 additional students added per year, until "saturation" is reached, i.e., 200 total students enrolled**

  The COPH has met this goal as shown below.

- **After saturation, enroll 100 per year**

  The COPH is on track to achieve this

- **Ratio of applications requested to # of applications received to # of applications accepted**

The COPH currently has a high acceptance rate as shown below. Currently discussions are ongoing about whether the COPH wants to become more selective in admitting students, probably resulting in admitting fewer applicants who are part of the public health workforce in the state, or remain less selective in admitting students. This issue will become more pressing as the COPH receives more and more applications and is not able to admit at such a high rate.

	Spring 02	Summer 02	Fall 02	Spring 03	Summer 03	Fall 03	Totals
Applied to MPH or MD/MPH	31	0	57	36	5	37	166
Accepted	29	0	52	36	4	27	148
Acceptance Rate	94%	--	96%	100%	100%	84%	89%

Interdisciplinary coordination and collaboration II.B-3

- **Cross-disciplinary activities/ courses**
- **Interdisciplinary faculty appointments/involvements**
- **Planning committees/centers that encourage cross-discipline work e.g., meeting minutes**

Interdisciplinary collaboration is facilitated by the interdisciplinary nature of planning committees, a large secondary and adjunct faculty of over 170, COPH faculty being appointed to other departments and institutions, and development of two interdisciplinary programs in Obesity Prevention/Control and Tobacco Prevention/Control that utilize a matrix structure and cut across all 6 COPH departments. In addition, the COPH has collaborative agreements with 29 academic institutions, state agencies, legislative committees, state-wide coalitions, federal organizations, and community-based and statewide non-profit organizations. Finally, the COPH developed MPH/MD and MPH/JD programs.

Use technology to administer the program

- **All students are able to register for courses online**

  The COPH has had online registration since its inception: http://www.uams.edu/coph/registration.htm.

Opportunities for community-based experiences for students

- **A concise statement identifying field experience sites**

  Currently, over 30 practica sites exist. This list of sites is available to all students and the expansion of sites is expected to add to the range of options from which students can choose.

- **A concise statement describing other community resources available for instruction, research, and service indicating where formal agreements exist**

  Instruction, research, and service agreements exist with 26, 26, 29 different organizations respectively.

- **Description of the school's policies and procedures regarding practice placements, including criteria for selection of sites, methods for approving preceptors, approaches for faculty supervision, and methods of assessment of students.**

  These policies were approved in Spring 2003 with input from various faculty. A student handbook was distributed in March 2004.

- **Identification of agencies and preceptors used for formal practice placement experiences for students, by program area, over the last three years**

  The COPH has identified over 30 preceptorship sites and these are described in the student policy and procedure handbook that was distributed in March 2004.

Prepare students with sufficient depth and breadth in public health curriculum

- **Identification of the means by which the school assures that all professional degree students have a broad understanding of the areas of knowledge basic to public health.**

  The COPH has developed the following evaluation mechanisms for each of their degree programs as shown by the "X"s in the table below. The degree programs that are more comprehensive require more evaluation of the students. These mechanisms will assure that students will receive a breadth and depth of education.

Evaluation Mechanism	Post Baccalaureate Certificate	MPH	MS in Occupational & Environmental Health	DrPH
Course work	X	X	X	X
Practicum placements and corresponding paper		X	X	X
Interactions with faculty		X	X	X
Master's thesis			X	
Integrative experience "product"		X		
Comprehensive exams				X
Doctoral Project				X
Exit interviews	X	X	X	X

Conduct evaluations of student performance

- **Description of the procedures used for monitoring and evaluating student progress in meeting stated learning objectives**

  See table above.

- **Identification of outcomes which serve as measures by which the school will evaluate student achievement**

  The COPH has identified degree completion rates, average and range of time to degree, job placement, and public health related job placement as well as individual student performance as outcomes that they will monitor. It is too early to comment on these outcomes at this time.

Educational Programming

- **Offer a MPH program**
- **Offer a certificate program**
- **Offer at least one doctoral program**
- **Offer specialization in these areas**

The COPH complies with these four program requirements by offering the following degrees and areas of specializations within those degrees:

Degree	Specialization
Post Baccalaureate Certificate	N/A
MPH	Generalist
MPH	Biostatistics
MPH	Epidemiology
MPH	Health Behavior And Health Education
MPH	Health Policy & Management
MS	Occupational & Environmental Health

JD/ MPH	Generalist or Specialist MPH
MD/ MPH	Generalist or Specialist MPH
DrPH classes started January, 2004	Public Health Leadership

- **Offer courses in core areas of public health: Health Policy & Management Health Economics, Health Services Research Epidemiology, Biostatistics, Health Behavior and Health Education, Maternal & Child Health, Environmental [& Occupational] Health**

  The COPH offers classes in these areas.

- **Provide a syllabus for each course**

  The COPH has documented syllabi for a majority of their courses to date. The COPH experienced difficulty in obtaining copies of the syllabus from courses from other campuses accepted as COPH courses early on. That is no longer an issue.

- **Presence of learning objectives for each program of study**

  The COPH has documented learning objectives for each one of their programs of study: Post-Baccalaureate Certificate, Generalist MPH, Biostatistics MPH, Epidemiology MPH, Health Behavior And Health Education, MPH, MS in Occupational & Environmental Health, and DrPH. Objectives for the Health Policy & Management MPH are being redefined as they have hired a new department chair, Dr. Paul Halverson, who will be starting June 1, 2004.

- **Evaluate teaching**

  Below are averages of all the course evaluations to date. Almost all items were rated extremely positively. The only exception was the ratings received by the specific textbooks used. While some textbooks were highly rated, there were some that were poorly rated as shown by the higher standard deviation. For example, the following courses were rated below the mid-point of the 5 point scale: PBHL 5133, 5372, 5643, 5223, 5013, 5033.

Evaluation Form Item	Average for classes taught as of June 30, 2003	Standard Deviations	Average for classes taught June-Dec. 2003	Standard Deviations
1. Course descriptions were defined and fulfilled	4.49	0.29	4.40	0.40
2. Course material was well presented	4.33	0.39	4.38	0.41
3. Course material was relevant	4.51	0.32	4.54	0.34

4. The course was well organized	4.35	0.42	4.33	0.47
5. The course objectives and content were well matched	4.41	0.34	4.44	0.37
6. The instructor stimulated my interest about the subject	4.37	0.43	4.42	0.40
7. The instructor was enthusiastic about the subject	4.68	0.34	4.70	0.21
8. The instructor exhibited a thorough knowledge of the subject	4.67	0.32	4.70	0.21
9. The instructor explained the material clearly	4.34	0.39	4.24	0.48
10. The instructor made time for questions and comments	4.59	0.28	4.56	0.32
11. The instructor used class time effectively	4.37	0.42	4.36	0.54
12. The homework and problem sets were helpful	4.11	0.49	4.21	0.44
13. The pace was appropriate	4.08	0.68	4.27	0.51
14. I would recommend this class to a friend or colleague	4.28	0.60	4.32	0.54
15. Textbook	3.46	1.11	3.67	0.78
16. Handouts	4.42	0.33	4.54	0.32

RESEARCH

- **List of scientific awards**

The COPH began collecting this information in the Spring 2004.

Each department defines research priority

Although faculty will participate in the interdisciplinary programs in tobacco use prevention and obesity, there will also be department-wide and individual-level research agendas. These have not yet been solidified and will continue to be refined as more faculty are hired.

Research is community-based

- **A description of current community based research activities and/or those undertaken in collaboration with health agencies and community-based organizations. Formal research agreements with such agencies should be identified.**

  The COPH currently has 17 formal arrangements with organizations to conduct research. The COPH has developed relationships with organizations in the Delta region within Phillips County e.g., Boys and Girls, Adults Community Development, Inc. and has also developed relationships with We Care in southeast Pulaski County and La Casa in southwest Pulaski County. In the Delta, research efforts are beginning.

COPH promotes research

The COPH has put in place several policies, sets of principles, and concrete mechanisms that both guide and support research. It terms of guiding research, the Principles of Community-Based Public Health, the COPH Research Committee, the Research Infrastructure Working Group, the Community Based Public Health Committee, and the existence of the research programs targeting obesity and tobacco use prevention serve to focus the research appropriately on public health issues and in a way that is consistent with Community Based participatory research. More concretely, incentives such as returning 30% of the COPH's Indirect Cost Recovery to the Dean of the COPH for use in funding COPH programs and also plans to give a portion of these funds directly to Principal Investigators are more concrete ways that the COPH supports research. The COPH is also exploring other incentives. In addition, the COPH has several laboratory spaces designated for their use. The COPH is supporting research by creating a centralized budget and grant preparation office, contributing staff support toward the Office of Grants and Scientific Publications, making use of the UAMS Office of Grants and Scientific Publications, designating staff toward human resource issues, creating the Office of Community Based Public Health, co-funding positions with outside public health partners in the state, and holding a research colloquium series. These activities will create an environment that fosters research that is community-based.

Research is relevant to the health of Arkansans

The RAND evaluation team decided collaboratively with the COPH leadership that this marker could best be achieved by drafting, each semi-annual period, a research summary in which the health-relevance of the published research that period was highlighted. <u>The following is the first such statement for start-June 30, 2003:</u>

Coronary heart disease, cancer, and stroke are the three leading sources of mortality among all gender and race groups, with Arkansans having some of the highest rates of these chronic diseases in the country. Tobacco smoking and obesity are the two leading preventable causes of

all three of these diseases. Thus, strategic planning within the College have led to a focus on smoking and obesity prevention and control and the establishment of Interdisciplinary Programs in Tobacco and Obesity. In addition, community-based prevention programs and policy initiatives have both also been identified through strategic planning as the primary methods of improving the health and well-being of Arkansans to achieve the College's mission. Finally, the ethnic minorities in Arkansas, including our state's African-American and rapidly growing Latino populations, suffer a disproportionate disease burden in Arkansas, requiring a major focus among Arkansas' public health priorities.

In Section 8 marker/measure A, a complete description is provided of funded COPH research projects. Several are identified with direct impact on obesity and minority health disparities. The Robert Wood Johnson Foundation RWJF funded project on "Assessment of Centers for Obesity" is identifying and evaluating preliminarily available continuing medical education and other continuing education curricula developed for healthcare providers to address obesity. Results of this project will inform the RWJF in developing new obesity prevention initiatives, inform the scientific community about the availability and quality of CME programs for obesity prevention, and provide a basis for developing CME/CE service and research programs in Arkansas. Other projects which address obesity include: "New Day", an examination of the effect of motivational enhancements on weight loss; and "LookAHEAD", a multi-center clinical trial attempting to examine the long-term benefits and risks of weight loss among persons with diabetes. The "Arkansas Racial and Health Disparities Research Program" is using focus group and secondary data analysis to develop recommendations for both short-and long-term interventions to reduce and even eliminate racial and ethnic health disparities in Arkansas. Other projects which are addressing predominately African-American communities in the Arkansas Delta include: "Community Health Worker Policy Development Initiative", a project designed to review policy initiatives to increase the number of community health workers in the Delta; and the "Home and Community-based Care: A Study of Determinants of Utilization" project, designed to examine why individuals and/or their caregivers choose various service options for their long-term care needs. In addition to the extramurally funded research projects that directly target obesity and minority health disparities, the COPH has extramurally funded research projects that directly target oral health, bioterrorism, family planning and stroke, all major concerns in Arkansas.

Research is relevant to the health of Arkansans

The RAND evaluation team decided collaboratively with the COPH leadership that this marker could best be achieved by drafting, each semi-annual period, a research summary in which the health-relevance of the published research that period was highlighted. The following is the second statement for July 1, 2003 to December 31, 2003:

Coronary heart disease, cancer, and stroke are the three leading sources of mortality among all gender and race groups, with Arkansans having some of the highest rates of these chronic diseases in the country. Tobacco smoking and obesity are the two leading preventable causes of all three of these diseases. Thus, strategic planning within the College has led to a focus on smoking and obesity prevention and control and the establishment of Interdisciplinary Programs in Tobacco and Obesity. In addition, community-based prevention programs and policy initiatives have both also been identified through strategic planning as the primary methods of improving the health and well-being of Arkansans to achieve the College's mission. Finally, the ethnic minorities in Arkansas, including our state's African-American and rapidly growing

Latino populations, suffer a disproportionate disease burdens in Arkansas, requiring a major focus among Arkansas public health priorities.

In this reporting period, the College submitted eight applications for extramural research funding. Five of the eight submittals were funded, and two others are still pending. Several of the funded projects address directly obesity and/or minority health disparities. For example, the "LookAHEAD" project is a multi-center clinical trial funded by NIDDK which is examining the long-term benefits and risks of weight loss among persons with diabetes: as part of this trial, a large minority cohort is being recruited. Faculty from the College are participating on national committees as part of this trial, the first one to examine the long term, i.e. up to 12-year, outcomes associated with weight loss.

The Robert Wood Johnson Foundation's "implementation and Evaluation of Act 1220" will measure the outcomes and evaluate the effects of Act 1220 of 2003. This legislation was developed as a method to combat obesity and related illnesses in school-age Arkansas children and to help improve their health. The COPH, and the Arkansas Center for Health Improvement ACHI will use the 12 month grant to maintain a data base containing the BMI of every school-age child in Arkansas, from kindergarten to 12^{th} grade, and to measure the outcomes and evaluate the effects of annually providing parents with the BMI level of their children and other mandates in Act 1220. We view this as an extremely important grant, which will provide important information on the benefits of such legislation, informing decision-makers in Arkansas, and at the national level, as other states consider similar legislation. The surveys developed by the COPH will allow us to learn how BMI reporting and other Act 1220 programs are working, and how we can adjust our efforts to counter the alarming increases in childhood obesity seen over the past decade.

The "Arkansas Racial and Health Disparities Research Program" is continuing. Recommendations for both short and long-term interventions to reduce and even eliminate racial and ethnic health disparities in Arkansas will be developed from focus groups and secondary data analysis.

In addition to the extramurally funded research projects that directly target obesity and minority health disparities, the COPH has an extramurally funded research project that directly target family planning, an important issue in Arkansas given the extremely high rates of teenage pregnancy in the state. The College also has several other pending grants, including an NIH submission for "Improving Vascular Measures of CVD" which we have recently been notified has been funded and will be discussed in more detail in the next RAND report. Two projects, "Risk based site specific fish advisory" and "Public health Leadership in Arkansas Maternal Child Health Workplace." All these projects are relevant to the concerns of Arkansans.

SERVICE

These measures have been documented in the body of the report.

Appendix G.
Quarterly Expenditures by Center on Aging

	2002					2003					2004	
	Q1	Q2	Q3	Q4	EOY Adj*	Q1	Q2	Q3	Q4	EOY Adj*	Q1	Q2
Central Administration												
(1) Regular salaries	63,566	37,661	40,745	50,266	na	28,400	69,324	45,017	77,166	na	46,735	48,292
(2) Personal service matching	10,841	9,265	8,174	9,655	na	6,896	14,229	9,686	16,416	na	9,596	9,292
(3) Maintenance & operation												
(A) Operating expense	2,540	4,046	-1,863	-9,247	na	1,660	3,251	1,469	14,470	na	4,269	7,115
(B) Conference & travel	0	138	1,972	1,180	na	1,357	2,392	861	3,122	na	403	2,046
(C) Professional fees	0	0	0	0	na	0	0	0	0	na	0	0
(D) Capacity outlay	0	0	0	4,900	na	4,891	0	0	123,568	na	0	0
(E) Data processing	0	0	0	0	na	0		0	0	na	0	0
Schmieding												
(1) Regular salaries	0	3231	11,374	2686	na	1,841	23,120	52,671	55,352	na	0	56,245
(2) Personal service matching	0	713	2249	383	na	379	4,787	12,212	13,113	na	0	14,613
(3) Maintenance & operation												
(A) Operating expense	0	0	0	3,500	na	0	9,593	0	35,087	na	1,373	4,587
(B) Conference & travel	0	0	0	0	na	0	0	0	4,758	na	0	0
(C) Professional fees	0	0	0	0	na	0	0	0	0	na	0	0
(D) Capacity outlay	0	0	0	0	na	0	0	0	0	na	0	0
(E) Data processing	0	0	0	0	na	0	0	0	0	na	0	0
SACOA												
(1) Regular salaries	932	65,882	23,170	54,405	21,224	60,846	62,189	61,023	-91,548	3,647	30,093	36,447
(2) Personal service matching	173	9,784	6,241	9,559	4,078	10,990	11,591	12,345	-11,828	731	7,669	9,232
(3) Maintenance & operation												
(A) Operating expense	0	20,637	15,926	-15,773	19,133	6,597	45,535	9,493	32,059	17,715	3,811	13,208
(B) Conference & travel	0	609	2,156	2,097	0	193	227	301	2,666	1,956	303	632
(C) Professional fees	0	0	0	0	0	0	0	0	0	0	0	0
(D) Capacity outlay	0	29,048	11,855	6,425	-5,242	0	4,989	0	0	0	0	0
(E) Data processing	0	0	0	0	0	0	0	0	0	0	0	0

	2002					2003					2004	
	Q1	Q2	Q3	Q4	EOY Adj*	Q1	Q2	Q3	Q4	EOY Adj*	Q1	Q2
COA NE												
(1) Regular salaries/(2)	0	0	20,705	9,988	na	52,692	46,385	49,841	62,903	na	75,585	20,370
Personal service matching												
(3) Maintenance & operation												
(A) Operating expense	0	0	11,459	-7,947	na	5,506	5,934	6,198	8,525	na	4,313	10,696
(B) Conference & travel	0	0	564	1,257	na	0	472	1,383	1,011	na	0	0
© Professional fees	0	0	0	0	na	0	0	0	0	na	0	0
(D) Capacity outlay	0	0	2,748	36,169	na	1,094	0	888	949	na	0	0
(E) Data processing	0	0	0	0	na	0	0	0	0	na	0	0
TX COA												
(1) Regular salaries/(2)	4,581	4,581	4,583	15,481	na	33,707	45,502	45,808	44,119	na	41,394	41,394
Personal service matching												
(3) Maintenance & operation												
(A) Operating expense	0	0	3,867	7,598	na	8,200	12,648	8,545	23,960	na	6,810	9,522
(B) Conference & travel	0	72	0	541	na		8,38	1,002	4,501	na		1,282
© Professional fees	0	0	0	0	na			0	0	na		
(D) Capacity outlay	0	0	4,834	28,859	na			2,555	4,941	na		
(E) Data processing	0	0	0	0	na			0	0	na		
Helena												
(1) Regular salaries	0	1,122	7,619	667	na	1,000	1,000	6,333	12,500	na	12,625	12,625
(2) Personal service matching	0	200	746	664	na	17	17	788	2,413	na	2,487	2,479
(3) Maintenance & operation												
(A) Operating expense	1,810	-1,011	3,114	9,141	na	1,940	20,919	3740	15,133	na		4,956
(B) Conference & travel	0	0	0	0	na			0	455	na	84	1,392
© Professional fees	0	0	0	0	na			0	0	na		
(D) Capacity outlay	0	0	0	0	na	16,214	-6	0	48,074	na		1,218
(E) Data processing	0	0	0	0	na			0	0	na		
SCCOA												
(1) Regular salaries	na	na	na	na	na	25,578	32,414	36,506	43,670	0	40,242	36,513
(2) Personal service matching	na	na	na	na	na	4,564	7,072	7,526	8,820	0	7,506	6,089
(3) Maintenance & operation												
(A) Operating expense	na	na	na	na	na	4,913	21,182	2,497	15,491	4,302	2,827	4,633
(B) Conference & travel	na	na	na	na	na	0	0	1,790	0	0		
© Professional fees	na	na	na	na	na	0	0	0	0	0		
(D) Capacity outlay	na	na	na	na	na	11,122	0	0	31,618	0		5,886
(E) Data processing	na	na	na	na	na	0	0	0	0	0		

	2002					2003					2004	
	Q1	Q2	Q3	Q4	EOY Adj*	Q1	Q2	Q3	Q4	EOY Adj*	Q1	Q2
Fort Smith												
(1) Regular salaries	na	na	na	na	na	18,772	26,769	30,508	30,540	na	19,229	12,546
(2) Personal service matching	na	na	na	na	na	4,052	5,58	6,810	6,930	na	3,988	2,484
(3) Maintenance & operation												
(A) Operating expense	na	na	na	na	na		16,326	6,650	2,474	na		12
(B) Conference & travel	na	na	na	na	na			0	0	na		
(C) Professional fees	na	na	na	na	na			0	0	na		
(D) Capacity outlay	na	na	na	na	na			18,796	2,615	na		3,331
(E) Data processing	na	na	na	na	na			0	0	na		
Evaluation												
(1) Regular salaries	na	na	na	na	na			0	63,363	na	4410	
(2) Personal service matching	na	na	na	na	na			0	12,566	na	33	
(3) Maintenance & operation												
(A) Operating expense	na	na	na	na	na			0	303	na		
(B) Conference & travel	na	na	na	na	na			0	479	na		
(C) Professional fees	na	na	na	na	na			0	0	na		
(D) Capacity outlay	na	na	na	na	na			0	0	na		
(E) Data processing	na	na	na	na	na					na	0	

NA indicates there were no expenditures during this time period.

* EOY Adj: End of year adjustments were made by some of the AHEC's to bring the Centers on Aging into closer compliance with the category distributions in the appropriations

Appendix H.
Measures & Markers Report: Start- December 31, 2003
Arkansas Biosciences Institute

NOTE: these include only those measures and markers NOT discussed in the body of the report.

FORMATION AND PLANNING

General Issues

- **Establish ABI organizational structure**

ABI was established in accordance with the ACT and held its first meeting on January 18, 2002. Dr. Michael Owens was initially named director, but in July 2002, Dr. Owens stepped down and Dr. Lawrence Cornett was named director. The Board of Directors consists of the following people: the President of the University of Arkansas, the President of ASU, the Chancellor of UAMS, the Chancellor of UAF, the UA Vice President for Agriculture, the President of the Arkansas Science and Technology Authority, the Director of the National Center for Toxicological Research, the President of ACH, and two individuals possessing recognized scientific, academic or business qualifications appointed by the Governor. ABI also established a Scientific Coordinating Committee (SCC). This committee was appointed by the five institutions to provide guidance for the ABI scientific research. Members include Ralph Sanderson, Ph.D. (Director of Basic Research, Arkansas Cancer Research Center, UAMS), Donald Bobbitt, Ph.D. (Dean, J. William Fulbright College of Arts and Sciences, UAF), Gregory Weidemann, Ph.D. (Dean, Dale Bumpers College of Agriculture, Food, and Life Sciences, and Associate Vice President for Research for Division of Agriculture, UAF), Charles Winter, Ph.D. (Associate Dean for Research, UAMS), Fred Kadlubar, Ph.D. (Director, Division of Molecular Epidemiology, FDA's National Center for Toxicological Research), Susan Davis Allen, Ph.D. (Vice Chancellor for Research and Academic Affairs, ASU), and John Carroll, M.D. (Professor of Pediatrics and Physiology, UAMS College of Medicine and Arkansas Children's Hospital)

- **Develop strategic plan**

The strategic plan and mission statement were adopted by the Board in July 2002. Their strategic plan included the following four goals: 1) encourage, foster and promote agricultural and medical research in Arkansas to improve the health of Arkansans, 2) increase ABI-related collaborative research that advances science and increases national and international funding support to member institutions, 3) serve as a major training and educational resource for science education partnerships, and 4) facilitate and foster the development of scientific infrastructure by supporting ABI programs in an efficient, creative and cost-effective manner.

- **Establish Science Advisory Committee**

Committee was established in April, 2003 and met for the first time in October 2003 and is described in the 2002-03 ABI annual report. Members of the committee are James Giovannoni, Ph.D. (Research Molecular Biologist, Cornell University), Mary Good, Ph.D. (Dean, College of Information Science and Systems Engineering, University of Arkansas, Little Rock), Rowena Matthews, Ph.D. (Professor of Biological Chemistry, University of Michigan), and Roberto

Romero, M.D. (Chief, Perinatology Research Branch, Wayne State University School of Medicine).

- **Establish Industry Advisory Committee**

Committee was established in April, 2003 and met for the first time in October 2003 and is described in the 2002-03 ABI annual report. Members of the committee are Edwin Anderson, Ph.D. (Coordinator, Laboratory Automation Group, Pioneer Hi-Bred International, Inc.), Ellis Brunton, Ph.D. (Senior Vice President, Science and Regulatory Affairs, Tyson Foods), Barry Holtz, Ph.D. (Senior Vice President, Large Scale Biology Corp), K. Daniel Kennedy (Executive Vice President and Chief Operating Officer, Riceland Foods, Inc.), and Kathy Brittain White, Ed.D. (President, Horizon Institute of Technology).

Hiring

a) Develop procedures for recruitment

Recruitment procedures were received from all five institutions. Hiring and recruitment procedures for ABI funded investigators are similar to procedures for all faculty.

b) Recruit nationally recognized researchers:

As shown in the table below, ABI has successfully recruited a number of new researchers at each of the institutions.

Scientists Newly Recruited to AR with ABI Support	ABI Member	ABI Research Area *(see below for #)	2001-02	2002-03	July-December 2003
Dr. Robert Gawley	UAF	1,5	x		
Dr. Michael Lehman	UAF	1,5	x		
Dr. David Vicic	UAF	1,5	x		
Dr. Chin Yu	UAF	1,5	x		
Dr. Jackson Lay	UAF	1,5	x		
Dr. Patrycja Krakoviak	ACH	4,5	x		
Dr. Susan Allen	ASU	5	x		
Dr. G. Paul Miller	UAMS	3	x		
Dr. Fusun Kilic	UAMS	3	x		
Dr. Thomas Kieber-Emmons	UAMS	3,5	x		
Dr. Sarah Johnson	UAMS	3,5	x		
Dr Wayne Wahls	UAMS	3,5	x		
Dr. John Crow	UAMS	3		x	
Dr. Lee Ann Crow	UAMS	3		x	
Dr. Brian Storrie	UAMS	5		x	
Dr. Hector Flores	ASU	1,5			x
Dr. Greg Phillips	ASU	1,5			x
Dr. Yi-Hong Zhou	UAMS	3			x

Dr. Masahiro Higuchi	UAMS	3			x
Dr. Margaret Harris	ACH	4			x
After January 1, 2004					
Dr. Carole Cramer	ASU				
Dr. Jerry Ware	UAMS				
Dr. Abbas Parsian	ACH				
Dr. Brad Schnackenberg	ACH				

New facilities

- **Improvement of core research facilities at different institutions**

a) Presence of new facilities

The buildings that are being built at UAMS and ASU are on target for their move in dates. UAMS had a move in date scheduled for January/February of 2004 and people have moved into the new building and set up their labs. The ABI office is also established in the building. ASU had an original move in date scheduled for December 2004, but their schedule has been moved up and they are expected to be in the building by September 2004.

b) Purchasing of scientific equipment

Arkansas Children's Hospital purchased the following: real time PCR system, research bone scanner, automatic film processor, phosphorimager, gamma counter, liquid nitrogen freezer, nucleofactor, microplate scintillation and luminescence counter, Pediatric Clinical Research Unit (PCRU) equipment, Sleep lab equipment, microcentrifuge. *Arkansas State University* purchased the following: scanning electron microscope, scanning probe microscope, confocal microscope, growth chambers, animal incinerator, spectrophotometer, Saturn 2200 GC/MS w/3800 GC Turbo, Nikon SMZ800 w/camera, Nikon Eclipse 600 w/camera, Nikon E600-FN, Nikon SMZ1500, HPLC Chromatography Liquid, Internet 2 equipment for Access Grid, Optima L-90X Centrifuge, iCycler Thermal Cycler, Cetac LSX-500 Laser Ablation System, Spectrophotometer w/Clarus 500 Chromatography, Ultrapro 500 Cryostat-Deluxe w/Clarus 500 GC, furniture for the new ABI building.

University of Arkansas-Division of Agriculture purchased the following: tissue culture chamber, algra64R centrifuge, refrigerator, speed vac system, genetic analysis system, microarray equipment-DNA resource center, array booster 4 chamber microarray incubator system, autosampler, detector, programmable pump, real-time PCR system, autosampler, photodiode array detector, spectrophotometer and accessories, ultra low temperature freezer, 2 plant growth chambers, AL25R sys plus, DU800 Spectro Life Science Package, ProExp/Tur/NG Sensor, allega 25R system plus pkg.

University of Arkansas, Fayetteville purchased the following for the UAF/Bruker Instruments Center of Excellence in Nuclear Magnetic Resonance**:** 700 MHz NMR**,** 500 MHz NMR**,** 300 MHz NMR**,** Wide bore magnet**,** Sun and Silicon Graphics workstations. For the UAF Mass Spectrometry Facility, they purchased: high resolution 9.4T FTMS**,** 7 & 5 T FTMS**,** MALDI-TOF**,** LC-MS**,** robotics-based sample preparation**,** 'Spot-picker' system for gel electrophoresis. UAF also purchased the following: protein sequencing system, peptide

synthesizer, surelite Nd-YAG laser, photon counting system, optical spectrum analyzer, high resolution loadcell, photodiodide array detector.

University of Arkansas for Medical Sciences purchased the following: ventana discovery hybridization system, ProGest protein digestion station, ProPic robotic workstation, Shimadzu QuadArray 2060 HPLC-MS.

IMPLEMENTATION AND EVALUATION

- **Develop policies and procedures to facilitate translation of the research results into commercial, alternate technological and other applications**

ABI created the Science and Industry Advisory Committees (SAC; IAC) to help guide them in developing ways to facilitate the translation of their research findings. These committees were fully staffed in April 2003 and met at the fall 2004 symposium to discuss recommendations for ABI. The committees put together a report with these recommendations, many of which focused on ways to market, disseminate, and publicize their mission and research findings. ABI has drafted a response to these recommendations.

- **Provide for systematic dissemination of research results to the public and the health care community in order to apply findings to planning, implementation, and evaluation of any other research programs of this state**

The publications, lectures/seminars, media contacts, and press releases are included in the main body of the report. In addition to these measures, ABI has also measured the number of high school, undergraduate, graduate students, and postdoctoral fellows involved in ABI-related research, the number of presentations, clinical trials, and patents, and the number of scientific review groups and editorial boards that researchers participated in during the year. These are included in the table below. Each institution has involved numerous students in ABI-related research, which increases the percentage of people in the surrounding community who are familiar with ABI and its mission. In addition, ABI presented at numerous conferences and the faculty sit on many different scientific and editorial committees, which should help make ABI and its mission better known in scientific settings.

July 2001-June 2002	HS	UG	Grad	Postdoc	Pres	CT	Patent	SRG	EB
[Data not available]	na	na	na	na	na	na	na	na	na
July 2002-June 2003									
ACH	2	10	8	2	34	3	1	9	9
ASU	8	28	25	1	11	0	0	5	3
UA-Ag	1	7	16	4	30	0	3	16	4
UAMS	4	5	10	17	40	1	1	17	36
UAF	2	32	32	9	34	0	2	13	12
ABI total	17	82	91	33	149	4	7	60	64

Note: HS= high school student, UG= undergraduate student, Grad= graduate student, Postdoc= postdoctoral fellow, Pres= presentations, CT= clinical trials, Patent= patents filed, SRG = scientific review groups, EB = editorial boards

References

Abt Associates Inc. for the Massachusetts Department of Public Health. *Independent Evaluation of the Massachusetts Tobacco Control Program*. Fourth Annual Report. Cambridge, MA: Abt Associates Inc., 1997.

Abt Associates Inc. for the Massachusetts Department of Public Health. *Independent Evaluation of the Massachusetts Tobacco Control Program*. Fifth Annual Report: Summary. Cambridge, MA: Abt Associates Inc., 1999.

Arkansas Center for Health Improvement. Position Paper on Spending the Tobacco Settlement Funds in Arkansas, Little Rock, AR, February 1999.

Arkansas Center for Health Improvement. Report of the Arkansas Health Insurance Expansion Initiative Roundtable, Little Rock, AR, March 2002.

Arkansas Division of Legislative Audit. September 12, 2002. Tobacco Settlement Proceeds Act: a Special Report, Little Rock, Arkansas.

Arkansas State Legislature, Initiated Act-19-12-101 Tobacco Settlement Proceeds Act of 2000, www.achi.net.

Arkansas Tobacco Settlement Commission. Biennial Report to the General Assembly and Governor on the Tobacco Settlement Act of 200s Program Performance and ATSC Recommendations, Little Rock, Arkansas, 2002 August 1.

Apanovitch AM, McCarthy D, Salovey P. Using message framing to motivate HIV testing among low-income, ethnic minority women. *Health Psychology,* 22(1), 60-7, 2003 Jan.

Appel LJ, Champagne CM, Harsha DW, Cooper LS, Obarzanek E, Elmer PJ, Stevens VJ, Vollmer WM, Lin PH, Svetkey LP, Stedman SW, Young DR; Writing Group of the PREMIER Collaborative Research Group. Effects of comprehensive lifestyle modification on blood pressure control: main results of the PREMIER clinical trial. *Journal of the American Medical Association,* 289(16), 2083-93 2003 Apr 23-30.

Balch GI, Rudman G. Antismoking advertising campaigns for youth [letter]. *Journal of the American Medical Association,* 280(4), 323–4, 1998.

Bandura, A. *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall, 1977.

Beverly C. Informal communication and provision of summary slides developed by the Arkansas Aging Initiative. 2004.

Browne A, Wildavsky, A. What should evaluation mean to implementation? In D.J. Palumbo (Ed.) *The Politics of Program Evaluation* (pp.146-172). Newbury Park, CA: Sage, 1987.

Centers for Disease Control and Prevention. *Best Practices for Comprehensive Tobacco Control Programs—August 1999.* Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, August 1999.

Centers for Disease Control and Prevention. Decline in cigarette consumption following implementation of a comprehensive tobacco prevention and education program—Oregon, 1996–1999. *Morbidity and Mortality Weekly Review,* 48, 140–3, 1999.

Centers for Disease Control and Prevention. Guidelines for school health programs to prevent tobacco use and addiction. *Morbidity and Mortality Weekly Review*, 43(No. RR-2), 1994.

Centers for Disease Control and Prevention. *Preventing tobacco use among young people: a report of the Surgeon General*. Atlanta, GA: US Department of Health and Human Services, Public Health Service, CDC, 1994. DHHS Publication no. S/N 017-001-00491-0.

Centers for Disease Control and Prevention. *Reducing the health consequences of smoking: 25 years of progress—a report of the Surgeon General*. Washington, DC: US Department of Health and Human Services, Public Health Service, CDC, 1989. DHHS Publication no. (CDC)89-8411.

Chaloupka R, Pacula RL. *Limiting youth access to tobacco: the early impact of the Synar amendment on youth smoking.* Working paper, Department of Economics, University of Illinois at Chicago, 1998.

Chatila W, Wynkoop W, Vance G, Criner, G. Smoking Patterns in African Americans and Whites With Advanced COPD. *Chest*, 125(1): 15-21, 2004.

Chobanian AV, Bakris GL, Black HR, et al. May 2003. *Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure,* National Heart, Lung, and Blood Institute, National High Blood Pressure Education Program Coordinating Committee, NIH Publication No. 03-5233.

College of Public Health, ACHI, Arkansas Department of Health. *Improving Health of Arkansas Communities: a Public Health Approach, a Legislator's Briefing Book.* 2003.

COMMIT Research Group. Community Intervention Trial for Smoking Cessation (COMMIT): summary of design and intervention. *Journal of the National Cancer Institute,* 83(22): 1620–8, 1991.

Cromwell J, Bartosch WJ, Fiore MC, et al. Cost-effectiveness of the clinical practice recommendations in the AHCPR guidelines for smoking cessation. *Journal of the American Medical Association,* 278:1759–66, 1997.

Cummings K, Hyland A, Perla J, Giovino G. Does increasing retailer compliance with minor's access laws reduce youth smoking? *Nicotine & Tobacco Research,* 2002. In press

Cummings SR, Rubin SM, Oster G. The cost-effectiveness of counseling smokers to quit. *Journal of the American Medical Association,* 261:75–9, 1989.

Dehar M, Casswell S, Duignan P. Formative and process evaluation of health promotion and disease prevention programs. *Evaluation Review*, 17(2), 204-220, 1993.

Elder JP, Schmid TL, Dower P, Hedlund S. Community heart health programs: components, rationale, and strategies for effective interventions. *Journal of Public Health Policy*, 14(4), 463-79, 1993 Winter.

Ennett ST, Ringwalt CL, Thorne J, Rohrbach LA, Vincus A, Simons-Rudolph A, et al.. A comparison of current practice in school-based substance abuse prevention programs with meta-analysis findings. *Prevention Science, 4*, 1-14, 2003.

Federal Register. US Department of Health and Human Services, Food and Drug Administration. Regulations restricting the sale and distribution of cigarettes and smokeless tobacco to protect children and adolescents (21 CFR Parts 801, 803, 804, 807, 820, and 897), 61 *Fed. Reg.* 44396 (1996).

Fichtenberg CM, Glantz SA. Youth access interventions do not affect youth smoking. *Pediatrics,* 109:1088–92, 2002.

Finnegan J, Murray D, Kurth C, McCarthy P. Measuring and tracking education program implementation: The Minnesota Heart Health Program Experience. *Health Education Quarterly*, 16(1), 77-90, 1989.

Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence.* Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000.

Fischer MA, Avorn J. Economic implications of evidence-based prescribing for hypertension: can better care cost less? *Journal of the American Medical Association,* 21;291(15), 1850-6, 2004 Apr.

Fisher EB Jr. The results of the COMMIT trial [editorial]. *American Journal of Public Health,* 85(2): 159–60, 1995.

Floreani AA, Rennard SI. The Role of Cigarette Smoke in the Pathogenesis of Asthma and as a Trigger for Acute Symptoms. *Current Opinions in Pulmonary Medicine,* 5:38-46, 1999.

Forster J, Murray D, Wolfson M, Blaine T, Wagenaar A, Hennrikus D. The effects of community policies to reduce youth access to tobacco. *American Journal of Public Health,* 88:1193–1198, 1998

Forster J, Wolfson M. Youth access to tobacco: policies and politics. *Annual Review of Public Health* 19:203-35, 1998.

Francisco VT, Paine AL, Fawcett S. A methodology for monitoring and evaluating community health coalitions. *Health Education Research*, 8, 403-416, 1993.

French, S. Pricing effects on food choices. *The Journal of Nutrition,* 133(3), 841S-843S, 2003 Mar.

Geobel K. Lesbians and gays face tobacco targeting. *Tobacco Control*, 3, 65–67, 1994.

Glasgow RE, Cummings KM, Hyland A. Relationship of worksite smoking policy to changes in employee tobacco use: findings from COMMIT. Community Intervention Trial for Smoking Cessation. *Tobacco Control* 6(2 Suppl), S44–8, 1997.

Glynn T. Essential elements of school-based smoking prevention programs. *Journal of School Health*, 59:181–8, 1989.

Goldman LK, Glantz SA. Evaluation of antismoking advertising campaigns. *Journal of the American Medical Association,* 279(10), 772–7 1989.

Goodman RM, Wandersman A. FORECAST: A formative approach to evaluating community coalitions and community-based initiatives. *Journal of Community Psychology*, *Center for Substance Abuse Prevention Special Issue*, 6-25, 1994.

Green LW, Richard L. The need to combine health education and health promotion: the case of cardiovascular disease prevention. *Promotion and Education*, 11–7, Dec 1993.

Hamilton JL. The demand for cigarettes: advertising, the health scare, and the cigarette advertising ban. *Rev Econ Stat,* 54:401–11, 1972.

Hinds M. Impact of local ordinance banning tobacco sales to minors. *Public Health Rep*, 82, 355–358, 1992.

Institute of Medicine. Access to Health Care in America. Washington, DC: National Academy Press, 1993.

Jeffrey DB, Christensen ER. Behavior therapy versus "will power" in the management of obesity. *Journal of Psychology*, 90(2d Half), 303-11, 1975 Jul.

Johnson CC, Nicklas TA. Health ahead--the Heart Smart Family approach to prevention of cardiovascular disease. *Am J Med Sci*, 310 Suppl 1, S127-32, 1995 Dec.

Jones SE, Sharp DJ, Husten CG, Crossett LS. Cigarette acquisition and proof of age among US high school students who smoke. *Tobacco Control*, 11:20–25, 2002

Kahn EB, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P. The effectiveness of interventions to increase physical activity. A systematic review. *Am J Prev Med*, 22(4 Suppl), 73-107, 2002 May.

Kalichman SC, Cherry C, Browne-Sperling F. Effectiveness of a video-based motivational skills-building HIV risk-reduction intervention for inner-city African American men. *Consult Clin Psychol*, 67(6), 959-66, 1999 Dec

Kelder GE, Porfiri RC, Robbins H. *The second American Revolution: Massachusetts' Community Assistance Statewide Team (CAST), a partnership between attorneys and public health professionals to support local tobacco control efforts*. In: No more lies; truth and the consequences for tobacco. Case studies presented at the 4th Annual National Conference on Tobacco & Health, 103–7, 1998.

Lantz P, Jacobson P, Warner K, et al. Investing in youth tobacco control: a review of smoking prevention and control strategies. *Tobacco Control*, 9:47–63, 1999.

Lightwood, JM, Glantz SA. Short-Term Economic and Health Benefits of Smoking Cessation: Myocardial Infarction and Stroke. *Circulation*, 96, 1089-1096, 1997.

Lightwood, JM, Phibbs CS, Glantz SA. Short-term Health and Economic Benefits of Smoking Cessation: Low Birth Weight. *Pediatrics*, 104, 1312-1320, 1999.

Ling PM, Glantz SA. Why and how the tobacco industry sells cigarettes to young adults: evidence from industry documents. *American Journal of Public Health.* 92, 908–916, 2002.

Lynch BS, Bonnie RJ, editors. *Growing Up Tobacco Free: Preventing Nicotine Addiction in Children and Youths.* Washington: National Academy Press, 1994.

Manley M, Lynn W, Epps RP, Grande D, Glynn T, Shopland D. The American Stop Smoking Intervention Study for cancer prevention: an overview. *Tobacco Control*, 6(Suppl 2), S5–S11, 1997a;.

Manley MW, Pierce JP, Gilpin EA, Rosbrook B, Berry C, Wun L-M. Impact of the American Stop Smoking Intervention Study on cigarette consumption. *Tobacco Control*, 6(Suppl 2), S12–S16, 1997b.

McCall N, Harlow J, Dayhoff D. Rates of hospitalization for ambulatory care sensitive conditions in the Medicare+Choice population. *Health Care Financing Review*, 22(3), 127-145, 2001.

Mercer SL, Green LW, Rosenthal AC, Husten CG, Khan LK, Dietz WH. Possible lessons from the tobacco experience for obesity control. *Am J Clin Nutr*, 77(4 Suppl), 1073S-1082S, 2003 Apr. Review.

Mittelmark MB, Hunt MK, Heath GW, Schmid TL Realistic outcomes: lessons from community-based research and demonstration programs for the prevention of cardiovascular diseases. *Public Health Policy*. 14(4), 437-62, 1993 Winter.

Murray D, Kurth C, Mullis R, Jeffrey R. Cholesterol reduction through low-intensity programs: Results from the Minnesota Heart Health Program. *Preventative Medicine,* 19, 181-189, 1990.

Nash C, Ochoa ER. The Arkansas Racial and Ethnic Health Disparities Study: Findings and Recommendations, Presentation to the Arkansas Tobacco Settlement Commission, January 28, 2004.

National Cancer Institute. *School programs to prevent smoking: the National Cancer Institute guide to strategies that succeed*. Rockville, MD: US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Cancer Institute, 1990; DHHS Publication no. (NIH)90-500.

Nielson, E., Sheppard, MA. Television as a patient education tool: A review of its effectiveness. *Patient Education & Counseling,* 11(1), 3-16, 1998 Feb.

Nuorti JP, Butler JC, Farley MM, Harrison LH, McGeer A, Kolczak MS, Breiman RF, the Active Bacterial Surveillance Team. Cigarette Smoking and Invasive Pneumococcal Disease. *New England Journal of Medicine,* 342, 681-689, 2000.

Ockene JK, Lindsay EA, Hymowitz N, Giffen C, Purcell T, Pomrehn P, Pechacek T, for the COMMIT Research Group. Tobacco control activities of primary-care physicians in the Community Intervention Trial for Smoking Cessation. *Tobacco Control,* 6(Suppl 2), S49–S56, 1997.

Oregon Health Division. *Tobacco Prevention and Education Program Report—1999*. Portland (OR): Department of Human Resources, Oregon Health Division, 1999.

Oregon Health Division. *Delivering results: saving lives and saving dollars. Tobacco prevention and education in Oregon*. Portland, Oregon: Department of Human Services, Oregon Health Division, 2000.

Peterson AV, Kealey SL, Mann SL, Marek PM & Sarason IG. Hutchinson Smoking Prevention Project: Long-term randomized trial in school-based tobacco use prevention – results on smoking. *Journal of the National Cancer Institute*, 92(24), 1979-1991, 2000.

Pierce JP, Gilpin EA, Emery SL, Farkas AJ, Zhu SH, Choi WS, Berry CC, Distefan JM, White MM, Soroko S, Navarro A. *Tobacco Control in California: Who's Winning the War? An Evaluation of the Tobacco Control Program, 1989–1996*. La Jolla (CA): University of California, San Diego, 1998a.

Pierce JP, Gilpin EA, Emery SL, White MM, Rosbrook B, Berry CC. Has the California Tobacco Control Program reduced smoking? *Journal of the American Medical Association* 1998b;280(10):893–9.

Pirie PL, Stone EJ, Assaf AR, Flora JA, Maschewsky-Schneider U. Program evaluation strategies for community-based health promotion programs: perspectives from the cardiovascular disease community research and demonstration studies. *Health Education Research*, 9(1), 23-36, 1994 Mar.

Rhoades J, Chu M. *Health Insurance Status of the Civilian Noninstitutionalzied Population.* Agency for Healthcare Research and Quality, MEPS Research Findings No. 14, AHRQ Publ No. 01-0011, Rockville, MD, 1999.

Rigotti NA, DiFranza JR, Chang Y, et al. The effect of enforcing tobacco-sales laws on adolescents' access to tobacco and smoking behavior. *New England Journal of Medicine,* 337,1044–51, 1997.

Ringwalt C, Ennett S, Vincus A, Thorne J, Rohrbach LA, Simons-Rudolph A. The prevalence of effective substance abuse prevention curricula in U.S. middle schools. *Prevention Science, 2*, 257-265, 2002.

Robinson RG, Barry M, Bloch M, et al. Report of the Tobacco Policy Research Group on marketing and promotions targeted at African Americans, Latinos, and women. *Tobacco Control.* 1:S24–S30, 1992.

Robinson RG, Pertschuk M, Sutton C. *Smoking and African Americans: spotlighting the effects of smoking and tobacco promotion in the African American community*. In: Samuels SE, Smith MD, eds. Improving the Health of the Poor. Menlo Park, Calif: Henry J. Kaiser Family Foundation; 1992.

Rothman AJ, Salovey P. Shaping perceptions to motivate healthy behavior: the role of message framing. *Psychol Bull,* 121(1), 3-19, 1997 Jan.

Scheirer MA. Designing and using process evaluation. In J.S. Wholey, H.P. Hatry, & K.E. Newcomer (Eds.), *Handbook of Practical Program Evaluation*. San Francisco: Jossey-Bass, 1994.

Schneider TR, Salovey P, Apanovitch AM, Pizarro J, McCarthy D, Zullo J, Rothman AJ.The effects of message framing and ethnic targeting on mammography use among low-income women. *Health Psychol*, 20(4), 256-66, 2001 Jul.

Schneider TR, Salovey P, Pallonen U, Mundorf N, Smith NF, Steward WT. Visual and auditory message framing effects on tobacco smoking. *Journal of Applied Social Psychology*, 31(4), 667-682, 2001 Apr.

Sevick MA, Dunn AL, Morrow MS, Marcus BH, Chen GJ, Blair SN. Cost-effectiveness of lifestyle and structured exercise interventions in sedentary adults: results of project ACTIVE. *American Journal of Preventive Medicine,* 19(1): 1-8, 2000 Jul.

Shadish WR, Cook TD, Leviton LC. *Foundations of Program Evaluation: Theories of Practice*. Newbury Park, CA: Sage, 1991.

Shea S, Basch CE.A review of five major community-based cardiovascular disease prevention programs. Part I: Rationale, design, and theoretical framework. *Am J Health Promot*. 4(3), 203-13, 1990 Jan-Feb.

Shea S, Basch CE. A review of five major community-based cardiovascular disease prevention programs. Part II: Intervention strategies, evaluation methods, and results. *Am J Health Promot,* 4(4), 279-87, 1990 Mar-Apr.

Siegel M, Biener L. The impact of an antismoking media campaign on progression to established smoking: results of a longitudinal youth study. *American Journal of Public Health* 90(3), 380–6, 2000.

Stead L, Lancaster T. A systematic review of interventions for preventing tobacco sales to minors. *Tobacco Control,* 9, 169–176, 2000.

Susser M. The tribulations of trials—intervention in communities [editorial]. *American Journal of Public Health,* 85(2), 156–8, 1995.

Taylor SM, Ross NA, Cummings KM, Glasgow RE, Goldsmith CH, Zanna MP, Corle DK. Community Intervention Trial for Smoking Cessation (COMMIT): changes in community attitudes toward cigarette smoking. *Health Education Research,* 13(1), 109–22, 1998.

Thompson, Joseph, G. Richard Smith, M. Kate Stewart, Paula Card-Higginson, Creshelle R. Nash, Suzanne G. McCarthy, MS Ronald "Arlo" Kahn, Charles McGrew, Nancy Kirsch, Susan Lancaster, Elizabeth Thames. *Position Paper on Spending the Tobacco Settlement Funds in Arkansas,* Arkansas Center for Health Improvement, Little Rock, Arkansas, 1999 February 9.

Tosteson AN, Weinstein MC, Hunink MG, Mittleman MA, Williams LW, Goldman PA, Goldman L. Cost-effectiveness of populationwide educational approaches to reduce serum cholesterol levels. *Circulation*, 95(1), 24-30, 1997 Jan 7.

Tsevat J. Impact and cost-effectiveness of smoking interventions. *Am J Med,* 93, 43S–47S, 1992.

U.S. Department of Health and Human Services. *The health benefits of smoking cessation: a report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1990. DHHS Publication No.: (CDC)90–8416.

U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Young People. A Report of the Surgeon General*. Atlanta: US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1994.

U.S. Department of Health and Human Services. *Tobacco Use Among U.S. Racial/Ethnic Minority Groups—African Americans, American Indians and Alaska Natives, Asian Americans and Pacific Islanders, and Hispanics: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1998.

U.S. Department of Health and Human Services. *Women and Smoking 2001: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2001.

U.S. Department of Health and Human Services. *Reducing Tobacco Use: A Report of the SurgeonGeneral.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.

Wagner EH, Curry SJ, Grothaus L, et al. The impact of smoking and quitting on health care use. *Arch Intern Med,* 155:1789–95, 1995.

Walter H, Vaughn R, Wynder E. Primary prevention of cancer among children: changes in cigarette smoking and diet after six years of intervention. *J Natl Cancer Inst,* 81, 995–9, 1989.

Walter H. Primary prevention of chronic disease among children: the school-based "Know Your Body" intervention trials. *Health Educ Q*, 16, 201–14, 1989.

Weinehall L, Hellsten G, Boman K, Hallmans G, Asplund K, Wall S. Can a sustainable community intervention reduce the health gap?--10-year evaluation of a Swedish community intervention program for the prevention of cardiovascular disease. *Scand J Public Health*. Suppl 56:59-68, 2001.

Worden JK, Flynn BS, Secker-Walker RH. Antismoking advertising campaigns for youth [letter]. *Journal of the American Medical Association,* 280(4), 323, 1989.

World Health Organization. *Controlling the Smoking Epidemic: Report of the WHO Expert Committee on Smoking Control.* WHO Technical Report Series No. 636. Geneva: World Health Organization, 1979.

Yancey AK, Tanjasiri SP, Klein M, Tunder J.Increased cancer screening behavior in women of color by culturally sensitive video exposure. *Prev Med,* 24(2), 142-8, 1995 Mar.

Yancey AK, Walden L. Stimulating cancer screening among Latinas and African-American women. A community case study. *J Cancer Educ*, 9(1), 46-52, 1994

Yerger VB, Malone RE. African American leadership groups: smoking with the enemy. *Tobacco Control*,11: 336–345, 2002.